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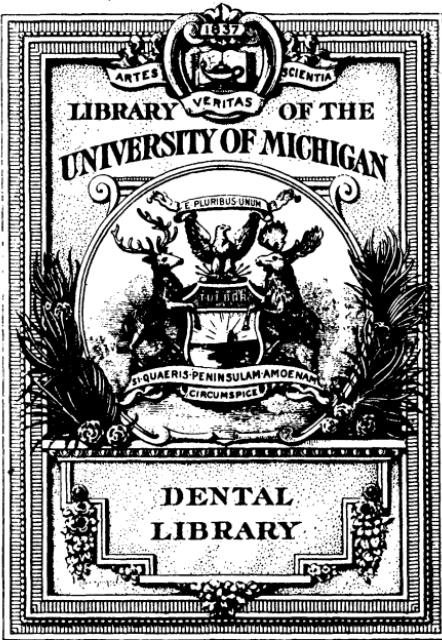
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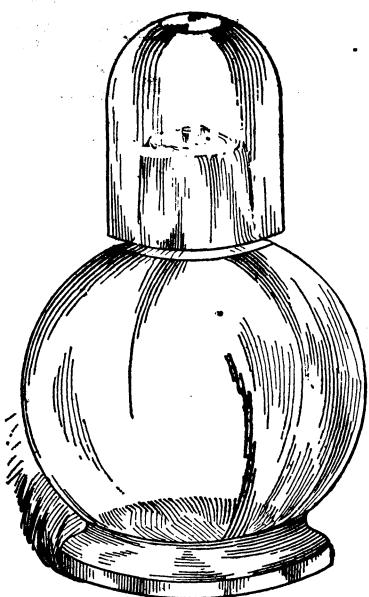
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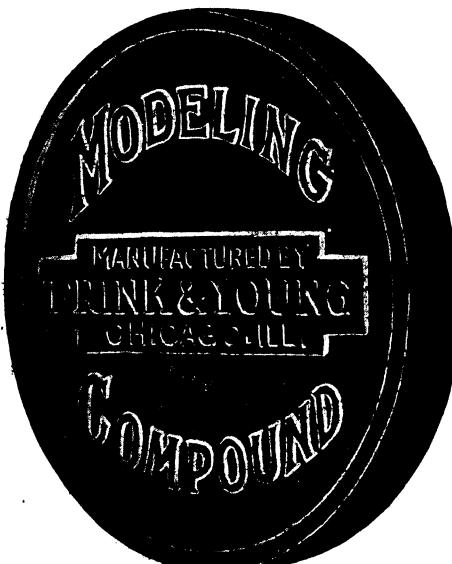
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OUR POST GRADUATE COURSE

OPERATIVE DENTISTRY.

BY R. B. TULLER, D. D. S.

Useful Hints and Helps.

Talcum powder or soapstone makes a splendid parting substance in pouring plaster into impressions. It should be well brushed into the impression and surplus jarred out. Ordinary soap lather will answer same purpose.

Talcum or soapstone makes a plaster cast as smooth and polished as ivory and much pleasanter to handle.

To facilitate passing the rubber dam between teeth that are close use a little softened toilet soap rubbed around each hole. The same treatment of sand and emery strips facilitates passing between teeth. The same treatment of the edge of disks prevents their catching into the rubber dam when revolving. Or a cake of soap or paraffine may be used to run the edge of the disk in before use on the teeth. Soap and paraffine rubbed on disks and strips makes them run easier and cut better than when used dry. Vaseline may also be used for all these purposes.

If these coated disks and strips are used to cut down gold fillings most of the gold dust will be held by them, and if they are then saved until a large quantity is accumulated and then sent to the refiners, the quantity of gold saved will generally be a surprise and considered worth while.

It sometimes happens that the pin of a Richmond crown is broken off pretty short within the coping. If an extension of pin could be made the crown might be used again. A bit of thin platinum may be rolled up to make a tube that will fit over the broken stub of pin. Into this fitted end push in a bit of moldine and fill the rest of the tube with solder. Now, with the crown properly invested slip the open end of the platinum over the stub and gradually

ually heat up until the solder flows and fuses all together. This pin can then be shaped as desired, and readjusted to the hole in the root.

It sometimes happens that a pin has been filed down a little too small. Wrapping on a little of this same platinum and soldering as above will remedy the trouble. Or fine platinum or even gold wire may be used for the same purpose.

In uniting a band for a coping or for a gold crown, if the edges are brought together square and true, it may be easily sweated together by simply holding in a very low flame, one that will just cause the edges to unite and not melt or burn the gold. Too hot a flame will be almost sure to melt or warp the gold before it can be removed, no matter how closely watched. A band united in this way will not open in further soldering and is as strong at the joint as at any other place. An expert can sweat on the swaged top or cusps, but the parts must fit exactly and be in close contact. The inexperienced would most likely fail in this and spoil his case, but any one can with a little care and judgment sweat together the butt end contact of the two ends of a band. It cannot very well be done by lapping the ends.

Holes worn in a crown in use may be filled by boring the hole large enough to remove food that may have worked through, sterilizing the cavern and then filling up with cement, into which before it has hardened a pellet of gold has been thrust. After the cement has hardened the surplus cement is removed and gold malleted in until the opening is closed.

It sometimes happens in making up a gold crown or bridge that at the last moment a minute hole is found in the shell crown—a hole that really does no harm except to admit saliva and injure the cement. Around such a hole on the inside a little varnish may be touched and to this when tacky a bit of gold foil several layers thick may be added and pressed hard, sealing the hole. It is then ready to set with the usual cement. Of course, it is understood that this would not do if the hole was where occlusal wear and tear would soon break it through, but one of those minute holes that occur where the cap joins the band.

In the use of borax in soldering, it is better to first heat it and drive off the water of crystallization and then pulverize. This prevents it boiling up and often dislodging the pieces of solder.

In wiring loose teeth together, instead of weaving a wire in and out around each tooth and then back the same way, it will often be found easier and better to use a double wire, making one loop around all the teeth involved, and twist the ends together at a convenient place with pliers, but not drawing the loop tightly. Now take shorter bits of wire and make as many long staples as ties between the teeth are wanted. Push them from the inside outwardly, one leg of staple below the wire loop and the other above. Twist these ends with pliers, drawing the loop wires together—or towards each other between the teeth. This will tighten the loop up and make it hug every tooth, holding loose teeth in line so firm that they can scarcely be moved more than the solid teeth and may be so held for months. The twisted ends cut off at a reasonable length are then bent over in between the teeth. Of course, any wired teeth will catch some food particles, but this may mostly be removed by rinsing thoroughly; and round wires against the teeth do not hold secretions like flat bands that usually cause decay after a few months or even a few weeks. No decay will occur on account of round wires if any precaution is taken to flush out and sometimes perhaps pick out some of the collected food. Loose teeth held in this way for months and properly scaled and treated have often become very firm and healthy again.

For separating teeth easily and painlessly prior to filling, use cotton tightly wedged between the teeth. This can be done easily where there are cavities. When there are no cavities a piece of cotton twine may sometimes be forced through and then the ends brought together and drawn tight and knotted buccally. Sometimes cotton wedged between teeth will not stay. Run a piece of silk ligature through above and tie around the cotton, bring ends together, draw tight and tie. Usually cotton will in one day separate teeth all that may be necessary and rarely if ever are they sore, the wedging is done so slowly and gently.

Very thin ribbon saws, such as most dentists have in plenty, make splendid matrices for many situations, though the dental depots carry a matrix metal that comes in sheets which may be cut with scissors as easily as paper into any shape desired. A matrix made

from a large gelatine capsule for amalgam fillings to be left in place to dissolve out are very excellent, as there is no danger of disturbing the filling by trying to remove before the amalgam is hard.

If your mouth mirror steams over in the mouth, warm it until it is warmer than the mouth, or rub over the surface with a little glycerine which may be wiped off well and yet will prevent steam collecting.

It frequently happens that you cannot get patients back to polish amalgam fillings. A good plan to follow is to finish as well as can be while the amalgam is yet soft. Nothing is better perhaps than a pretty tightly rolled pellet of cotton held in the pliers. With this one can wipe away surplus material flush with margins. Use the back of a thin strip to finish between. The finish a sort of velvet finish, and is very good if they never come back. Cotton used in this way is the best way to get the occlusal surface shaped as desired.

A good strong horseshoe magnet is often serviceable in removing broken broaches in roots, depending somewhat on how far up they are broken off and how firmly anchored. Take an old broken smooth broach and pass it up into the root in contact with the broken piece. Put the magnet on the projecting portion and pull on the broach. The broach becomes part of the magnet in that way, and exerts the same sort of pull on the broken piece. Repeat a dozen or more times if necessary.

A solder for any carat of plate, no matter what, can be made by taking 89 parts of that plate, 7 parts of silver and 4 parts of copper. It makes a nice easy flowing solder for that plate of close approximating color.

Sticky wax for holding gold parts together previous to soldering may be made of 2 parts of rosin to 1 part of beeswax. Melt the rosin first in a tin and add the wax, stirring till well mixed, then pour into a cup of cold water. Take a piece the size of a walnut and, keeping the hands moist, roll out into pencils, or roll them on a piece of glass.

When it is desired to remove porcelain teeth from a rubber plate it may be easily done by heating the teeth over an alcohol flame, then with an instrument placed behind they may be quickly pushed off.

To avoid displacement of small pieces of soldering by bubbling borax rub up with your flux and water on your slate a little gum arabic.

Dentists who have trouble about having solder flow where it is wanted are probably at fault in not having the case well and uniformly heated up to begin with. It really saves time and trouble to heat the case up over the bunsen before trying to do anything with the blowpipe. Dr. R. C. Brophy has put on the market an asbestos lined box to be set over the bunsen burner, so arranged that the maximum of heat is concentrated upon the case instead of going wastefully into the air. A piece of $2\frac{1}{2}$ -inch iron piping 2 inches high may be used, on which a perforated cover may be placed. Something like this, placed over and around the invested case, confines the heat and heats it up evenly. When this is done and the solder almost ready to melt it only requires a brief sweep of the blowpipe flame to make it flow beautifully. Remove, of course, the case from the oven or the oven from the case before using blowpipe.

In cleaning teeth mix your pumice with peroxide of hydrogen, which is a great aid in removing stains.

Absorbent cotton rolls for dentists are very commonly in use, but non-absorbent rolls it seems some dentists do not know about. Either can be secured and the latter are very often more useful than the absorbent. If you want to dam the flow of saliva, use the non-absorbent; it don't soak full for some little time. One can use both sometimes, the absorbent first and the non-absorbent over and next to the teeth being operated on.

Condensed rules for using mixing and using Ascher's or any of the silicate cements are as follows: Mix thoroughly, but do not spatulate. Use bone or agate spatula. Mix stiff. Pack firmly into the cavity. Use agate, bone or tortoise shell burnishers and points to pack with. Steel may be used, but as little as possible. Don't depend on celluloid matrix for pressing the cement to place. Cavities should have right angle cavo surface. Good retention. No vaseline, as was originally suggested. Never use close to the pulp, too good a conductor. May be pressed into soft cement. Keep dry for 20 or 30 minutes. Finish with white disks and strips, very much is done with gold fillings, if finish with agate burnishes is not satisfactory. Use paraffine on disks and strips—not vaseline. Flow melted paraffine over the finished filling before taking off the dam. Stretch the dam and cut it between the holes to avoid dislodging the paraffine.

(To be continued.)

BACTERIOLOGY AND PATHOLOGY.

BY GEO. W. COOK, B. S., D. D. S., CHICAGO, ILL.,
DEAN OF DENTAL DEPARTMENT, UNIVERSITY OF ILLINOIS; PROFESSOR
OF BACTERIOLOGY, UNIVERSITY OF ILLINOIS.

The problem of studying biological phenomena is of course limited to a certain degree for the want of methods and mechanical appliances for carrying on such studies. But it is easy enough to observe certain phenomena, such, for instance, as the decomposition or putrefaction of an animal when exposed to the atmosphere after death. Decay is a term that is frequently applied to this process, also the term rot, which is less eloquent but is an old expression. All these terms mean one and the same thing. But when this term is applied in a scientific way we call it a saprophytic process. Since the knowledge of the part that bacteria play in decomposition of dead organic substances, this term, saprophytic process, has been applied. And the name usually applied to the class of bacteria that live on dead organic matter, or in the presence of organic decaying matter, we call saprophytic organisms. This class of organisms belongs to a large group of bacteria that are found in constant contact with all dead and living substance. It is sometimes a common expression to call this class of organisms parasites. But a parasite is an organism that lives on some other organisms either of a higher or lower form of life, and usually plays no great important role in the decomposition of this organic substance after it has passed into a lifeless state.

We have another class of organisms classed as fermentative microorganisms. These organisms act upon entirely another group of organic compound. Their principal physiological function is the breaking up of carbohydrates into simpler compounds and producing some of the conditions that we recognize as ferments, or the products of fermentation.

The three principal compounds that we find in fermentation are the aldehydes, alcohols and acids. These cover a large group of substances that comes under the head of enzymes. This term covers a large field of interesting scientific material, but will not be dis-

cussed at this time. Fermentation has been classed among some of the physiological processes, and it was through the investigations of the cause of fermentation that the old theory of spontaneous generation lost the last support, when it was found out that fermentation was produced by a small organism of a vegetable nature that was capable of exciting fermentation.

In studying the subject of fermentation it is important that we study the definition of the term fermentation.

Ferment (*L. fermentum* leaven). Any substance that causes fermentation in other substances with which it comes in contact. Amyloytic f., any sugar-producing or diastatic ferment. Chemic f., Unorganized f., one which is not a living organism. Coagulating f., any ferment that causes milk to curdle. Diastatic f., a ferment that changes starch into sugar. Fibrin f., a ferment occurring in the blood, and changing fibrinogen into fibrin. Glycolytic f., a ferment produced in the liver, which changes starch into glucose; also any ferment that breaks up sugar. Hydrolytic f., a ferment that operates by causing water to be taken up, followed by the breaking down of the substances which absorbs the water. Inverting f., a ferment which converts cane-sugar into grape-sugar. Organized f., a living plant or animal organism, such as a microbe, which acts as a ferment. Proteolytic f., any ferment that may convert a proteid into a peptone or an albumose. Soluble f., Unorganized f., a chemical substance producing fermentation by chemical means; an enzyme. Urea f., see Urease and Nephrozymase.

Fermentation (*L. fermenta'tio*). The decomposition of complex molecules through the influence of a ferment; chemic or physical change induced by a ferment. Acetic f., the conversion of a weak alcoholic solution into acetic acid or vinegar. Alcoholic f., the conversion of ethylic alcohol from carbohydrates. Ammoniacal f., the change of carbohydrates, milk, etc., into butyric acid. Caseous f., the coagulation of soluble casein under the influence of rennet-ferment. Dextran f., the f. by which dextrose is converted into dextran. Diastatic f., the change of starch into glucose, under the influence of ptyalin, the glucolytic ferment, etc. Frog-spawn f., dextran f., Lactic f., the souring of milk caused by various bacilli. Propionic f., the production of propionic acid from saccharine solutions by the *Bacillus* *cavicidus*. Viscous f., the production of gummy substances, as in the urine, milk, and in wine, under the influence of various bacilli.

It might be well to state here that a bacterium is a ferment and produces fermentation. This class of organisms belongs to a group that is universally classed under the head of technical mycology. Of course it is understood that mycology, as used in this connection, means the science of fungi, and the term is subdivided somewhat in the same way as the definitions under the head of fermentation. We have pathogenic mycology as well as pathological mycology. It was through the discovery of these small organisms in their relation with fermentation that brought the science of mycology in such close contact with the science of pathology, as well as putrefaction. The theories that are held regarding fermentation prior to the discovery of the relations of these microscopic cellular lives are numerous and to some extent very interesting. Of course, the making of wines and the ideas pertaining to this process of industry dates far back among the ancients. Among the Greeks they use wine to make glad the deity and Bacchus. The Greeks believed that Bacchus was the inventor of wine. The Egyptians described its manufacture to Osiris. And, apparently, from the history that we gather they had a fairly good idea as to what constituted many of the phenomenon that we now designate as fermentation and putrefaction. These people observed many bright and intellectual things in connection with fermentation and had many ingenious theories. And the apparatus that was raked up for the study of this process equals in ingenuity to the ones that are at the present time in use. The principal object of studying fermentation and putrefaction was not so much from the standpoint of knowledge as it was from the standpoint of commercial value, and also to prove that spontaneous generation was a fact. Almost every century has had its theories and investigators, and all through the ages there appeared that unrest with reference to the actual cause of this process with many others.

The history of the microscope is so well known to the majority that it seems useless to go into any detail regarding its discovery, which was in about the sixteenth century. After it was well known that certain forms of living organisms existed in the liquids of decomposing substances, many still adhered to spontaneous generation. Needham in 1745 advocated and tried to prove by experiments that spontaneous generation actually existed, and it remained for Tindall and Pasteur to demonstrate the fallacy of what many considered

spontaneous generation of certain of these organisms that we now look upon as the cause of fermentation and putrefaction. Perhaps no man in the early days of this branch of biological science contributed more to the world than did Pasteur. He not only wielded a great influence in the study of fermentation, but it was he who discovered a parasite form of bacteria in silkworm and saved the silk industry in France, when it looked as if France was going to be unable to control the silk industry of the world. Pasteur as a scientific investigator stands out preeminent as one of the greatest scientists that the world has ever known, and his love for the work and his great ability to establish hypotheses made him a leader and made his name live among the scientific investigators in future generations.

Fermentation plays such a wonderful part in diseases, and especially dental caries, that the dental profession cannot fail in obtaining too much information regarding this process. In fact, if one only refers back to the definition of fermentation it will be found that fermentation enters into almost every process of physiological function. It has been shown that fermentation is a process usually instigated in a carbohydrate-like substance. It will be remembered that other cellular life can break up carbohydrates. We know that there are certain enzymes in the bodies of animals that can convert certain starch into sugars and various combinations.

It might be well here for us to come to some understanding as to what is understood by a carbohydrate. A carbohydrate contains carbon, hydrogen and oxygen, and is found in great abundance in plant life. Of course, some plant life will be richer than other, but as a food material it plays an important role and is one of the principal compounds in all forms of living substance. In the breaking up of the carbohydrates, as we have said previously, there are aldehydes, alcohols and acids. The aldehydes are usually derivatives from what is known as the ketone group. It has been shown that the carbohydrates of a complex nature are able to yield more than one molecule. Carbohydrates are divided into monosaccharides, disaccharides and polysaccharides. The monosaccharides are usually split up into dextrose and levulose. The two last named sugars are the result of the splitting of the monosaccharides, and the cleavage of these will depend upon the kind of ferment they are brought in contact with as to the kind of substance they will produce in further splitting.

There will be but little aldehydye or a small quantity of alcohol formed, which would result in the formation of a small amount of acid. The splitting up of the carbohydrates by the action of certain forms of bacteria will in a great many instances produce more acids than are usually produced in the fermentation of carbohydrates in the bodies of animals during the process of digestion. The carbohydrates that are taken as nutrition by the higher forms of animal life are broken up into various sugars and utilized for the energy in the physical activities of the cellular structure. While that is true in the case of bacteria, to a large extent, they do, however, leave a product as a non-utilizable substance in metabolism of the bacterial cell. This ordinarily is an acid, or at least a portion of it is acid.

When we consider this important physiological phenomena of bacteria we are better prepared to understand why fermentation in the mouth may be of such great importance in the causation of dental caries. Bacterial fermentation of carbohydrate substance has many complexed physiological phenomena that are by no means understood, and may never be understood to the satisfaction of all. The chemical composition of the cell wall is the result of a combination of certain physical characteristics found in carbohydrate-like substance, which consists, as we have said before, of carbon, hydrogen and oxygen. The estimate of the bacterial cell wall is 44 26/100 of carbon, 6 25/100 hydrogen, 49/100 oxygen. Calculated from the molecular standpoint $C_6 H_{10} O_5$. Of course this molecular construction varies in the cell wall of various organisms. It has also been shown that a normal sodium chloride solution will render the cell wall of bacteria more or less pervious to certain chemical agents, and sometimes it is found that this salt solution will completely destroy the cell wall of certain forms of bacteria and render the protoplasmia of the cell in such a physical condition that it is unable to reproduce its specie. This process is called plasmolysis. This same process can be accomplished with a large number of bacteria and with other forms of cellular structure. These phenomena are of the utmost importance in studying cell life and especially in the study of the bacterial cell. Of course it would not be fair to presume that every particle of the bacterial cell wall was composed of carbohydrates, but analyses show that it is practically made up of carbohydrate and in that particular it resembles all forms of vegetable life.

(To be continued.)

Our Foreign Department

THOMAS L. LARSENUR, D. D. S., Foreign Department Editor

FOUL BREATH: ITS CAUSES, PATHOLOGY AND TREATMENT.*

BY ANDREW WYLIE, M. D.,
ASSISTANT SURGEON CENTRAL LONDON THROAT AND EAR HOSPITAL.

(The Dental Surgeon, London, May 23, 1908.)

(Continued from page 636, October issue.)

Foreign bodies in the nose, pharynx, and larynx cause a most offensive odor, since they obstruct ventilation and drainage and excite inflammatory processes and sepsis. A familiar cause is that the foreign bodies, chiefly fish and splinters of meat bone, becoming imbedded in the tonsil or pharynx. Pieces of shells, buttons, beads, plum stones, etc., in the nose cause discharges, crusts, and odors; especially is this true if foreign bodies are allowed to remain and become encrusted so as to form rhinoliths. Foreign bodies in the larynx also cause a most offensive odor; typical examples of false teeth in the larynx are described in several text-books, and some years ago, in my own practice, a gentleman, after having several teeth extracted, experienced for three months a peculiar offensive smell, until one morning during a paroxysm of coughing some pus and a stump of a tooth were expelled.

The last series of causes which I will enumerate are the constitutional ones, and under this heading I place:

(1) Gastro-intestinal derangements and dyspepsia, especially those which are associated with dilatation of the stomach.

In patient troubled with severe chronic constipation there is a peculiar, sickly, almost faecal odor from the breath.

Spirit drinkers have quite a different odor from beer drinkers; the former is of a vinegar type, while the latter have a characteristic smell of stale malt liquor.

*Paper read before the West London Medico-Chirurgical Society, March 6, 1908.

The breath of cigar and pipe smokers has a different smell, according to the favorite form of using tobacco.

(2) Different varieties of glycosuria cause a sweetish odor to the breath.

(3) Menstruation always causes some change in the breath; in some individuals it is so pronounced that they can hardly mix with society during that period.

(4) During lactation also in some patients there is a marked odor from the breath.

(5) Drugs have a great influence on the breath, and it is one of the signs to watch for in their administration. Bismuth and arsenic have been already referred to. Lead and mercury produce a well known effect on the gums, and in extreme cases much foetor. All preparations of sulphur cause a characteristic sulphuretted hydrogen smell of the breath. Copaiba and valerian have a cat's-meat smell; iodoform a rancid smell; and belladonna and opium diminish secretion and cause a dryness of the mucous membrane, to which bacterial activity may be superadded.

(6) Occupations have also a great to answer for as regards foul breath. Milkmen, or those continually working with milk, have a peculiar odor, owing to constant contact with the *B. butyricus*. The reason of this is probably the direct transference of the bacillus by the fingers to the nose, with consequent rhinitis. The same theory applies to workers among skins and furs, who have a peculiar animal odor. Those who work in phosphorus, lead or brass have a peculiar metallic odor from their breath, which is associated with rhinitis and "spongy" gums.

(7) Many nervous diseases cause an odor from the breath; such is found in paralysis and apoplexy. With the foul breath which frequently follows a hemiplegic attack you are doubtless quite familiar. Mental dullness and physical disability prevent proper cleansing of the lips, and tongue; thus sordes accumulate and foetor is produced.

Note, therefore, the importance in such cases for regular cleansing by the nurse.

The pathology of foul breath caused by conditions other than organic diseases and foreign bodies is somewhat complicated. It can be considered under three heads:

(1) Imperfect secretion of the glands, both mucous and albuminous. This occurs in atrophic rhinitis, rhinitis and pharyngitis sicca, in glycosuria, and under the influence of drugs such as belladonna, opium, etc.

(2) Deficient leucocytosis and absence of lymphoid elements, such as occurs in atrophic rhinitis, a disease characterized by complete disappearance of all the normal lymphoid structures and loss of the phagocytic action of the leucocytes. Under such conditions bacteria grows rapidly and foetor results.

(3) Action of bacteria. Some are present in every variety of foetor. I am indebted to Dr. Wyatt Wingraye, who has exhaustingly studied these and other discharges at the Central Throat and Ear Hospital, for information regarding the different micro-organism which are responsible for foetor.

The *B. proteus vulgaris* is of frequent occurrence whenever decomposition is taking place, as in caseous rhinitis, lacunar accumulations in the tonsils, pyorrhea alveolaris, and in all dental troubles, together with ulcerations of the mouth and in chronic suppuration of the ear.

The *S. refringens* (*S. foetida*), accompanied by fusiform bodies (Vincent's bacilli), are associated with all foetid accumulations in the throat, nose and ear.

The *B. butyricus* is very common in milk-fed patients and those engaged in dairy work, also in infants fed from the breast.

The *B. coli communis* and the *B. subtilis* are very rarely absent from oral and pharyngeal infections, while yeasts and torulae give the peculiar odor to beer drinkers and those subject to glycosuria.

Other foetor-producing organisms are: *B. foetidus ozaena*, *B. pyocyaneus*, *B. lactis erythrogenus*.

Since most of these bacilli flourish best without oxygen, it is therefore essential to curtail their activity by a free ventilation of the parts. The *B. proteus vulgaris* is a most active cause of foetor and of ptomaines.

Many of these bacilli are associated with different odors or foetors. This fact depends to a great extent upon the material or nutrient on which they grow, also upon the conditions of heat, light, and air.

Most ulcerated surfaces give rise to foetor, and it depends on the nature of the bacteria, the scavenging power of the leucocytes, and the implication of bone or cartilage, whether the foetor is pronounced or not.

Malignant disease may be present in the nose, pharynx, or larynx without much, if any, foetor, but as soon as ulceration occurs, or the bone or cartilage is attacked, then the foetor becomes very offensive.

TREATMENT.

Successful treatment of foetid breath depends, first, upon a clear recognition of the cause; secondly, on the persistent and thorough employment of the methods adopted; and, thirdly, on the intelligent co-operation of the patient. Remedies to overcome foetor must not be taken in hand in a half-hearted manner; they must be persevered with most thoroughly, and the patient should be instructed in every detail of the *technique*, whether this includes a douche, spray or insufflation. A mere temporizing by the use of "deodorizers" only results in disappointment, if the *fons et ergo mali* remains untouched.

The first aim of the physician is to discover the cause of the trouble, and the second to remove it. It is not my purpose to discuss all the intricate surgical procedures involved in the alleviation and the cure of foetor, but any sinusal disease *must* be eradicated. Any nasal obstruction whether due to hypertrophy or to new growth, should be removed, so that free drainage and ventilation may be established. Any abnormality in deglutition should be corrected. Hasty mastication should be forbidden. When the trouble is of dental origin the aid of the dentist is indispensable, and must not be postponed. Hygienic measures should be enforced before and after each meal; the toothbrush should be thoroughly employed at least twice a day, but especially after the last meal, in order to remove the accumulations which, if left *in situ*, naturally tend to ferment during the night. The brush should be used with a vertical rotatory movement to sweep the interstices between the teeth. Lacunar accumulations in the lingual or faucial tonsils should be evacuated; any ulcers should be touched with pure "phenol"; and, if extensive keratosis be present, the tonsils should be removed, either *en masse* or by *morcellement*.

Suppurations of the middle-ear must be treated by antiseptic drugs; rhinoliths, foreign bodies in the nose, pharynx, or larynx must be removed. Causes, whether following the use of drugs, or those which are dependent upon occupations or upon diet, must be attended to, and constitutional and gastro-intestinal disease must be thoroughly treated.

The chief aim in overcoming foul breath is to treat and remove the immediate cause, which, we have seen, is usually bacterial origin, whether primary or secondary. With the object of cleaning away foetid accumulations in the nose and naso-pharynx, "solvent" douches must be employed. It is useless merely to employ antiseptics which do not possess the power of dissolving mucin, albumin, and the constituents of crusts. The best ordinary solvent is sodium sulphate (1 per cent solution), or sodium baborate or carbonate (in 0.5 per cent solution). The nose should be thoroughly douched with this until the breath-way is free from crusts and caseous matter. Antiseptics can be employed afterward direct to the membrane by means of a spray. In mild cases, when the foetor is not severe, and where mucous membrane is still sensitive, the olfactory function not being destroyed, an atomizer of liquid paraffin containing menthol, oil of cinnamon, or eucalyptus, is preferable; but, if the foetor is very intense, Dobell's alkaline solution of phenol may be sparingly used.

We must next restore to a healthy secretion by gentle stimulation. This can be done in mild cases by using a snuff composed of boracic acid with otto of roses, but when the disease is very atrophic, and secretion scanty 5 per cent of lysoform should be added as a powerful stimulant and antiseptic. It need scarcely be added that intra-nasal douching should be employed with the greatest care, and not persisted in for too long a period, owing to the danger of infecting the middle-ear through the Eustachian tube. Severe cases of atrophic rhinitis are very tolerant of douches and require such treatment at several intervals. Sea water, boiled and decanted, forms an excellent douche, especially when combined with a visit to the sea air. The nasal and pharyngeal mucous membranes, except in cases of atrophic rhinitis, are very sensitive, and will not tolerate antiseptic solutions of anything like the strength and intensity which the mouth does. Densely hard crusts are painlessly removed by inhalations of steam, camphor being added to hot water as a stimulant.

To facilitate oral hygiene, solutions of lycoform (1 per cent), sanitas, peroxide of hydrogen, etc., are most beneficial; permanganate of zinc (1 in 500), or zinc chloride ($\frac{1}{2}$ per cent), is recommended in cases of "spongy gums."

Lozenges containing formic aldehyde should be used frequently; they are non-poisonous, and act as powerful deodorants and anti-septics.

It is important in many cases of subjective foul breath, such as ozaena, etc., to gain your patient's confidence by reducing at least, if not overcoming, the foetor. With the help of a snuff composed of lysoform, boracic acid, and otto of roses, the unhappy sufferer from ozaena may often be rendered fit for the society of his fellow-men and enjoy life.

The treatment of such conditions as bronchiectasis, pulmonary gangrene, gastro-intestinal and other diseases causing foetor of the breath, falls under the province of the general physician, and is beyond the scope of this paper.

WHY WE SHOULD SUBSTITUTE THE PLAIN MIRROR TO THE CONCAVE MIRROR IN DENTAL PRACTICE.

BY DR. J. M. CHATEAU.

(*Les Annales Dentaires*, Paris, July, 1908.)

In my early days of dental practice, I noticed my eyes became very fatigued after having used the concave mirror for a certain length of time.

I have tried to find a reason for this fatigue, which was very pronounced every time I would use the concave mirror, especially after examinations where the use of the mirror was called for.

From several theoretical considerations, I came to the conclusion that the fatigue which I experienced was caused by the use of the concave lens mirror, and I conceived the idea to have my mirrors constructed with plain lenses. From that day on my eyes were relieved, and I discarded the use of the concave mirrors (magnifying glass mirrors).

**PRACTICAL DEMONSTRATION OF THE FATIGUE CAUSED TO THE EYES BY
THE USE OF THE CONCAVE MIRROR.**

Discontinue for two weeks the use of the concave mirror (*magnifying glass*), and after that period of time return to the concave mirror; nine times out of ten, you will notice a well marked fatigue of the eyesight, and instinctively you will return to the use of the plain mirror. In fact, you will notice that you will see: First, better; second, without fatigue, and without damage to the eyesight.

If this practical and empirical demonstration is not sufficient, optics will prove and develop the first proposition—*we can see better with the plain mirror*. Physiology and pathology will demonstrate the second; *the use of the plain mirror saves our crystalline, retards hyperopia and presbyopia, which threatens us around the age of fifty*.

I.

Optic teaches us that the travel of luminous rays in a concave mirror is similar to that of a convex lens having the same focal distance. When we look into a concave mirror, it is absolutely and identically the same as if we were using a plain mirror, which would give us a virtual image back of it and in sympathy with it, and this virtual image would be magnified with a magnifying-glass having the same focal distance and occupying the same place that would have the concave mirror.

The result of this is, that the examination of a posterior (distal) cavity of a tooth with a concave mirror is presented to us as would an anterior (mesial) cavity, symmetrical with the mirror, as if the image were back of the lens enlarged by a magnifying-glass placed on the same plane and same focal distance as that of the mirror.

A.—The image of the concave mirror outside of a certain plan is not clear and distinct.

This theory is the same as that of a magnifying-glass; the image is in focus at one point only, that is at the perpendicular axis of the magnifying-glass (or the concave mirror).

Two points unequally distant from the mirror cannot be both in focus at the same time. Where as with the plain mirror the image will always be distinct, always in focus, with equal dimensions and will be found to be symmetrical.

*B.—The image of the concave mirror (*magnifying-glass*) is inexact and distorted.*

The concave mirror gives us a false idea of the shape of a cavity, if the walls are not on the same plan, which is always the case.

For instance, take two points which are distant one from the other from the mirror; if one is in focus, the other will be out of focus and the line which unites them will be distorted; consequently you will not have a true image of the cavity. Besides the proportion between two objects unequally distant one from the other is not correctly indicated.

As we are dealing with comparatively small magnifying, we should not exaggerate the practical value of these arguments. They are, nevertheless, technically true.

C.—*The image of the concave mirror (magnifying-glass) is magnified, which is not of a main importance since we do not magnify anterior cavities; but it is less lighted up than when the plain mirror is used. This certainly is a capital objection with posterior (distal) cavities, as a poor lighting is a greater impediment to the thorough examination of a cavity than the exiguity of its dimension.*

The posterior (distal) cavity, is the one which necessitates principally the use of the mirror, and which is lighted indirectly; it is poorly lit and lacking of light.

Now, then, let us return to our physics that says that the magnifying of a magnifying-glass (*which is the case with a concave mirror*) is accomplished at the expense of the light.

As a matter of fact, common sense will clearly demonstrate this to us. When an image is magnified, the light which lightens it is diffused on a larger surface, and each unity of surface, every detail, will naturally receive less light, as the same amount of light will be divided on a larger surface.

Now, then, our posterior (distal) cavity is poorly lit up on one side, and on the other its lighting up must fatally be diminished by the reflection (which itself absorbs the light). Why should we lose light by the use of a magnifying-glass which is useless, since we do not think of using it in anterior cavities which, although better lighted up, would stand a loss of light to less disadvantage than the posterior (distal) cavities? As long as we will not recognize the necessity of using a magnifying-glass with anterior cavities, which are always well lighted up, it will be *a fortiori* absurd to use a magnifying glass with posterior (distal) cavities, which are always poorly illuminated.

The conditions of lighting up a posterior (distal) cavity are made worse when a magnifying-glass is used. As a matter of principle, poor lighting up of a cavity is a much greater obstacle to its examination than the exiguity of its dimensions. And the practical proof of this is that we instinctively use the mirror, not to reflect a cavity which would be invisible without its assistance, but as a regular light reflector to concentrate the light on a given point where we can see directly, which consequently is better lit up than a posterior (distal) cavity, since it is lit up by direct light and may be examined without the assistance of the mirror.

We are now through with the optics, which have established, by the different experiments, that we can see better; that is to say, more clearly, more exactly with the plain mirror.

II.

Let us now prove that the plain mirror is a protection to the eyesight by pointing out the injury that the concave mirror (magnifying-mirror) may inflict to the eyesight.

These injuries are of two fold—some are immediate; others will manifest themselves progressively, and after a long period.

First—The immediate injury appears with a fatigue which is noticed, especially the first days following the use of the magnifying mirror. This fatigue will soon diminish with the habit; it is due to the overwork imposed upon the ciliary muscle which controls the curvature of the crystalline; moreover, it is possible, that this may not be constant.

Second—The injury of long period caused to the eyesight by the use of the magnifying mirror is that which will be given to the whole eyesight by the unnecessary and inconsiderate use of a convex lens; we elongate our optic axis, we are causing hypermetropia.

In order to compensate the interposition of the convex lens between the virtual image given us by the plain mirror and the retina, so that the image will be reproduced well on the retina and in front of it, our crystalline will necessarily have to be flattened. Now, age would sufficiently take care of this natural flattening, which results in hypermetropia and presbyopia.

As we can see, the concave mirror (magnifying mirror) is preparing bad eyes for our old age.

The plain mirror gives us no other accommodation but to see

an object which would be placed symmetrically in relation with it. We are therefore in the normal conditions of accommodation and vision.

I will conclude these considerations by stating that the plain mirror allows us to see better, with more exactness, more light, the last point being an indispensable feature to posterior (distal) cavities.

The plain mirror saves the eyesight from injuries which are to be feared immediately by the fatigue and overwork given to the ciliary muscle and which later causes elongation of the optic axis (flattening of the crystalline, and resulting in hypermetropia).

METHOD OF ANESTHESIA FOR HYPERSENSITIVE DENTINE.*

BY DR. M. E. PITOT, BRUSSELS.

(*L'Odontologie*, Paris, August 15, 1908.)

I intend to expose to you a new method for anesthesia of the dentine. I am facing an audience which is too well aware of the facts to recall to your memory the methods used heretofore.

Recent researches have increased with the development of crown and bridge work and the *quasi* necessity of devitalizing the pulp, has raised the spirits of seekers,—it is Nogue who fears not the trepanation of the maxillary to obtain anesthesia by the diploe; it is Alberic Pont who uses cataphoresis; it is Welin making sub-periosteum injections with a special syringe; it is Touchard . . .

None of these have obtained absolute positive results, whilst you will notice that when I will give the practical demonstration which I have brought forth to you, the anesthesia which I obtain is constant and complete.

Nevertheless the results I have obtained do not yet meet my desires. I can not anesthetize with certainty when dealing with molars, maybe I do not thoroughly understand the anatomy of this anesthesia; I have nevertheless kept records, for I have had clinical experience, consequently practical experience very sufficient and successful.

*Paper read before the Belgium Society of Odontologie at the meeting of the International Dental Convention.

My paper will undoubtedly give rise to discussions and criticisms, and your researches will lead to a more rapid perfection of this new method which will be highly appreciated by our patients.

It is Mr. Quintin to whom I am thankful for having given me this new idea and the path to this new discovery. He had been successfully using for the avulsion of teeth a medicine which I will expose to you later. No danger, no trouble and complete analgesia. I had not at that time read the paper of Dr. Sauvez, presented by him at the St. Louis dental convention, and I imagined that such an anesthesia would be fatal to the pulp. But Dr. Sauvez points out to us that a few moments before the painless removal of the pulp, it was full of life and sensibility and that the part which is anesthetized is the alveolar-ligament.

After having made several experiments I imagined one day that it was about the apex where the blood vessels and nerve centers inoculated themselves with those of the pulp in the inextricable maze of the circulation and the nerve supply of the tissues. I made my injection in the sub-periosteum sinus of the apex of the tooth and attained success.

It is therefore by an injection in the tissues which are the nearest to the apex that I anesthetize the dentin.

The syringe which I use is the ordinary hypodermic syringe used by all dentists.

This is the first advantage, as it does not necessitate the purchase of a special instrument and saves the cost of a high pressure syringe.

The product which I use is "Novocaine," manufactured by "Mester Lucius," of Naechst Mein.

Here is the information I possess on the product: It is a monochlorhydrate of the sammobensoildiethylaminoethanol; they are colorless needle-shaped crystals, melting at 165° C. They may be heated without decomposing up to 120° C. They are soluble in water in the proportion of 1:1, giving a solution of neutral reaction; in alcohol they will dissolve in the following proportion: 1:30. Caustic alkalies and carbonates form a precipitate in the solution, having the appearance of a colorless oil which soon will form a crystalline mass or body; on the contrary, bicarbonate of soda may be added to the solution without causing any precipitate. The reagents of alkaloids, such as iodide of postassium and mercury, pioric acid and the iodized iodide

of postassium will give precipitates, even in solutions of novocaine highly diluted.

Pharmacological examination of novocaine has given the following results: This remedy has the same action on the sensitive nerves as cocaine; a solution of 0.25 per cent is sufficient to anesthetize in about ten minutes a main nervous trunk, such as the siatica. Local applications of novocaine provokes no accessory affect; no phenomena of irritation are produced by it.

The general action of novocaine after its absorption is hardly noticeable; it has no influence on respiration nor circulation. The activity of the heart is not effected when it is used; 0.15 to 0.2 gr. injected under the skin of rabbits barely effects the curves registering the sanguine pressure and the respiration.

The non-poisonous action of novocaine is clearly demonstrated when compared with the fatal doses of cocaine and stovaine for each kilo of animal of different kinds.

The fatal dose, in subcutaneous injections for each kilo of animal, of:

	Cocaine.	Stovaine.	Novocaine.
Rabbits	0.05 to 0.1 gr.	0.15 to 0.17 gr.	0.35 to 0.4 gr.
Dogs	0.05 to 0.07 gr.	0.15 gr.	0.25 gr.

(Not yet fatal.)

Nevertheless, I do not use novocaine alone, but mixed with adrenalin chloride. I inject hypodermically at the forementioned spot from $\frac{1}{2}$ to 2 cent. cubes of a 2 per cent solution of novocaine, to which I add 4 drops of a 1:4000 solution of adrenalin chloride. After a period varying from one to ten minutes anesthesia is obtained.

No special precautions are required, except that of asepsis.

There are no formal contra-indication, other than those inherent to toxic absorption: young children with advanced cardiac troubles. Pregnancy is not a contra-indication. No special preparation is required. It may be administered before or after a meal, although it is preferable that the patient has not an empty stomach and is not overworked.

Between the time (ten minutes) of the injection and that of the anesthesia, the patient may attend business, shopping, etc.

However, here are the clinical observations I have made of about one thousand cases.

~~Do not~~ forget the state of mind in which the patients are in when calling upon us; they are often in a state of fear, and often that anguish is the cause of paleness, perspiration, and thus they may sometimes complain of palpitation of the heart and dyspnea.

Are these phenomena caused by the injection? It may be possible, but it is not given fact; in all events, these phenomena are not very frequent. Once my supply of adrenalin chloride (Mester Lucius) was exhausted, so I used the same dose of another make. I then had two accidents, the only two I can recollect ever since I have been using this method. Here is what took place in both cases after the injection: Two ladies, apparently well, a few seconds after the injection complained of a quite marked anguish, with a sharp pericardiac pain; the pulse was very slow, 44 pulsations to the minute. I immediately placed the patient in the horizontal position and relieved the corsets which were very tightly laced. The pain at once disappeared and I proceeded with my work.

PRE-OPERATIVE ANALGESIA WITH CRYOGENINE.

(La Revue Internationale de Prothese Dentaire, Paris, June, 1908.)

Cryogenine may be classified at the head of analgesics and will be found very useful to the dental profession.

Given in doses of fifty centigrammes in capsules or pills 15 to 20 minutes previous to the operation it will reduce the sensation of pain to such an extent that local anesthesia is unnecessary. It may be used with great advantage in the extraction of teeth, excavating hypersensitive dentine, etc. This remedy will also be found valuable in cases of odontalgia, neuralgia, etc.

TO SOFTEN MOLDINE WHICH HAS BECOME HARD.

(Le Laboratoire, Paris, April 12, 1908.)

It often happens that from frequent use, or long exposure to air, moldine loses its plasticity. The usual method of adding glycerine is more or less satisfactory, even when all instructions are carefully followed. The best process to use is to place the moldine to be softened in a vessel, to which a sufficient quantity of water, to cover the moldine, is added. One or two spoonful of glycerine are added to the water. The moldine is then heated until the water has evaporated after which the moldine may be found having its original plasticity.



ORIGINAL CONTRIBUTIONS

TOOTHSOME TOPICS.

BY R. B. TULLER.

Now, what do you think pa has gone an' done?

He's went an' bot a new hide-drawlic cus pa door—one that wurks with water.

It cost him a lot ov munny, 'sides a plummer fer 11 ours in one day at 2 dollars an our.

But, say, she's a peech—er a wattermellen—but she wastes lots of watter.

It goes round an' round like a mary go round, an' I can make it sling watter all over the room—an' so can other kids.

They hain't a kid what sets in pa's chair but what makes her go till she wets everything in site, 'til pa ketches on an' stops her.

But what made pa the maddest you ever seen wuz when a big boy kep' wantin' a drink an' wantin' a drink every time pa looked away, an' he'd let the water go so hard in the glass it would shoot out agin clear up to the sealing, an' some went on pa's gold he was brilin' over his lamp.

Pa sed, "Now, here! young man, you let that there thing alone—see?" An' the boy sed, "Well, I gess I want a drink when I want it."

"Well," sez pa, "don't tuch that agin. If you want a drink ast me."

"Alright," sez the boy. "I want one now." "Y'u jest had half a dozen," sez pa. "Well, I want a nuther," sez the boy. Pa grab'd the glass, an' he sez, "Well, here you ar'. Now hav' a nuther, now hav' a nuther—now a nuther."

But the boy kickt and sed they wuz comin' two fast. "Now, you hold still till I git thru," sed pa, as he put his hed back; but the first time pa turned away he had to have another drink, and

that time he got the watter wheel to goin', an' the first pa knowd she wuz a slingin' watter.

But the boy wuz gittin' the worst of it, so he letter go an' kep' on rockin' in gold, till the furst thing he knowd the boy twisted loose an' pulled off the rubber dam pa had got fixed from his stuffin' it all up when he was drinkin' afore, and he cried out, "I'm gittin' all wet! I ain't goin' to set there an' get all wet! Not me. My pocket is ful of watter."

"Well," pa sez, "you jest go on home an' don't you ever come back here until you can come an' behave yoorselv. I'll charge up fer an hour's wurk all the same."

The boy went home an' told his mother the dentist spilt water on him and didn't fill his tooth an' sent him home an' wuz going to charge fer it just the same.

Mean time pa wuz tryin' to look plesent an' whissel Yankadudall backwards; but his lips didn't pucker good an' the way he jerked things 'round kind of broke up the time, an' when I went ter git a drink he chased me out an' kickt at me zo I hed done sumpin', an' tolle me to go git a drink where I allus got it, outen the tin dipper.

Pa's gitten so I have a reel hard time with him ever little while.

Well, while he wuz a feelin' just like that, the boy's mother came, an' she had her hed up in the air, an' sed she had cum to demand a explnation about the treatment of her boy, what cum to him to hav his teeth filled an' got his close all wet an' spilt insted. Nuther thing he had ben made to drink so much watter he was sick rite now at home.

Well, pa cam'd hisself as well as he cud an' he told her jest how it wuz, and sed he'd got out ov all pashunts with him an' couldn't do no good work for nobody what akted like that.

Mrs. Finkeldum she said kind a sarkastic, "It's a funny thing that my boy should want to drink so much an' akt up like when he didn't do so so at home, an' who threw the water on him? Guess'd he wooden do that to hisself." Then pa showed her the cuspadore an' how it would fling the water out if it was let in too fast, an' sure a nuff it flipt water out on her, but she didn't mind that so much; but when he showed her how her boy letter drive into the glass where it shot out again way up to the sealin', an' it all cum down

on her Mary Widder hat and made the wheel part all lop-sidded, she sed she could see how her boy got all drencht with sech a careless man, an' she gesst that he'd hav about twentfive \$\$ to pay fer that hat instead of chargin' her boy up fer nothin', and she gest he'd hev to pay fer havin' his sute prest at least, besides. An', she sed, a man had no bizness to be practicin' dentistry unless he cud hold his tempur an' not be crost with children. Her boy wuzzent ust to it.

An' furthermore, she sed, a dentist hadn't no bizness havin' machinery a round that he couldn't control and what was lible to go rong when ennybody tucht 'em. She sed she wanted to be fair an' if he'd try an' control his temppur an' be jentle with Jhonny she'd let him fix up his teeth an' call it square. Pa had told her it wood cost 'bout 58 or 59 doller to fix his teeth. An' so Johnny's 11 \$\$ sute an' her 15 \$ hat she wuz willin' to turn in fer 58 \$\$ worth ov wurk, an' both cood be irned out good as ever.

Pa, of corse, stood up fer himself an' sed the boy wuz to blame fer it all, and he otter kno better, a boy of his age, an' to keep meddlin' when he'd been told notter do it. Mrs. Finkledum pesisted that sech a thing as he had wuz only a temptation to enny boy, an' he'd no bizness puttin' temptation in ther way. What wuz the use of sich a whirlagig instid of a simpul spit tune? It might look purty to sum peopple, but it made her dizzy to look at it.

Well, she went a way sayin' she'd let her husband take up the matter with pa—she wanted to be fair, but she couldn't 'ford to loose no twenty five dollar hat. It did look kinder tuff, one side all a droopin' down an' floppy. Sed she's ashamed to go home in it; made her look as tho' she'd been on a toot. She took the hat off an' went home barheded.

After she wuz gone pa he lookt 'bout as disgusted as he cood. May sez, "Joel, what's the matter? You look like a thunder and lightning cloud." He sez, "I feel like I'd like to kick out the frunt window an' chuck every dum thing in here out in the street, an' then hike to the woods and stay a good long time." And ma sed, "An' live on roots and twiggzes, I spoze; an' let your wife an' fambly live on zephur bred an' sunshine cake."

HYPNOTISM IN DENTISTRY.

BY W. H. COWEN, D. D. S., CHICAGO.

The article in the September issue of THE AMERICAN DENTAL JOURNAL on "Hypnotism Applied to Dentistry" is interesting, particularly so to those of us who have used "Suggestion" in our practice.

To our mind "Suggestion" is a better name for the general practitioner to use than "Hypnotism," for the reason that so many people do not understand what the term means. Hypnotism means sleep.

Many people associate hypnotism and hypnotists with work which they have seen on the stage, done for the purpose of amusing one, whether it is instructive or not.

Also, a great many think that if a man or a woman is a hypnotist, that, all they have to do is to look at them, make a few passes, and they are hypnotized in spite of themselves. Such cases are very rare.

Every one is susceptible to some one, but not necessarily to the same one.

*There is nothing that we do in our daily life which is not our own or some one else's suggestion.

We do not always take another's suggestions; they do not always coincide with our thoughts in the matter; but if we wish to take suggestion and will, or can, concentrate our minds on the taking of the suggestions as given us, we are better able by this concentration to determine for ourselves which suggestions to take and which not to take.

One person alone cannot hypnotize. It takes two and they must be in touch with each other, one being able to give the proper suggestion, the other being able to so concentrate his mind that he can take the suggestions as given, forgetting everything else.

The writer has, a number of times, filled and also extracted teeth for different patients, they being put to sleep by suggestion, or hypnotized, to use the common term, by another operator.

To control patients, that is, to keep them so in touch with the operator that they will open and close the mouth, rinse out the mouth and expectorate at the command of the operator, but at the same

time remove the sense of touch, simply by suggestion, is the whole thing.

The writer has also been able in his practice to suggest sleep to a patient and when this suggestion has been carried out, to suggest the entire removal of feeling from the face, has been able to thoroughly grind out the sensitive cavities, also to wash out those very sensitive buccal cavities with ice-water, suggesting that he was using nice warm water, also to drive a gold band for molar crown up to alveolus without a particle of pain, as shown by no contraction of the muscles and by the patient asking when awakened, "What did you do today, Doctor?"

It seems to the writer that the better hypnotism is understood and the more it is used by the profession, the more good can be accomplished.

A friend of the writer's, a physician, always uses suggestion when giving an anesthetic, continually suggesting "Just going to sleep," "Just going to sleep," and in one case in particular, giving chloroform to a man known to the writer as a good subject for suggestion; we think that the man was really hypnotized before getting the effects of the chloroform.

We think this, because he did not throw off the effects of the chloroform as rapidly as the physician thought he ought to; and upon my giving the Doctor the proper suggestions to be given in turn to the patient, he woke up almost immediately.

NEW METHOD OF USING NITROUS OXIDE AND ILLUMINATING GAS IN COMBINATION.

BY FRANK D. PIERCE, D. M. D., WEST ROXBURY, MASS.

Pass the nitrous oxide from the cylinder into a gasometer or gas bag. When sufficient nitrous oxide is in gasometer or gas bag shut off inlet tube and attach the air tube of blowpipe to gasometer *inlet tube*. Other tube goes to illuminating gas as usual.

To obtain greater heat, press with hand on gasometer or gas bag. This may be used with *any* blowpipe, and by this means a steady flame is obtained. Gold may be brought to boiling point or platinum wire may be melted. The cost of gas for an inlay is about ten cents.

LA GRIPPE—ACUTE CORYZA.

BY W. T. MARRS, M. D., JEWETT, ILL.

What is the best method of aborting grippe or acute nasal catarrh? Several years ago a number of the leading medical men of the country were asked this question. The consensus of opinion was that the only appreciable way to shorten the duration is for the patient to go to bed and stay there until well. My observation prompts me to believe that sedation is more effective than stimulation. I can see no value in quinine. A vascular sedative, e. g., digitalis, aconite, does good. Calomel followed by a saline is very efficient at the beginning; glyco-thymoline in a 25 to 50 per cent solution with water used with the K, & O. nasal douche allays the congested mucous membrane of the nose and throat. It is alkaline, antiseptic and sedative and always makes the patient feel comfortable. When a more sedative action is desired I often put a little menthol with the solution. The patient should be instructed to keep the nasopharyngeal mucous membrane in a clean aseptic condition as it is doubtless during colds that many cases of tubercular infection occur.

PROPORTIONS OF THE NORMAL DENTAL ARCHES.

(Temporary and Permanent.)

The British Society for the Study of Orthodontia has appointed a committee to ascertain what work has been done up to the present by way of ascertaining the proportions of the different types of normal dental arches, and applying this knowledge to the treatment of actual cases in practice. It is thought that just as human skulls are classified according to the cephalic index which is based on the measurements of length and breadth, so the study of dental arches based also on anthropological methods might be of great service as a basis for the more serious study of orthodontia. The society is, therefore, anxious to ascertain whether any measurements of normal arches have been made with this object in view, and will be grateful for any references to papers which have been published on the subject in any language, or for the names of any who have been occupied in a research of this kind.

The committee would indicate the following as the points upon which they will be glad to have any specific information or statistics, either regarding the temporary or permanent arches:

1. Relation of length of arch to breadth: What were the methods of measurement, and what points were taken to measure between?
2. Relation of size of teeth to size of arch: What method of determining this correlation was adopted?
3. Height of palate: Points of measurement used to determine this?

Any information bearing on this subject, or reference to papers, will be gratefully received by G. G. Campion, 264 Oxford road, Manchester; H. Chapman, 20 Queen Anne street, London, W.; J. E. Spiller, 62 Worple road, Wimbledon.

RANULA.

True ranula, or the dilatation of Wharton's duct, is to be observed not only by the elevation of the tongue on the side involved, but the sublingual or submaxillary gland may become dilated to an enormous extent, exhibiting a large swelling beneath the chin or the angle of the jaw. In the patient having ranula the papillæ not infrequently atrophy, and by excluding the saliva from the other ducts than those involved by the ranula the surface of the mucous membrane, along the line from which the saliva formerly made its exit into the mouth, will be found smooth and dry. No orifices can be found. No saliva enters the mouth from the glands whose ducts are closed. It is necessary to employ means by which an opening may surely be made permanent. This I have accomplished by making a small silver tube and perforating it with holes, then bending it so as to form a ring about one-half inch in diameter. This is an open ring, one end of which is carried into the cyst and out through the mucous membrane and telescoped into the outer end, thus uniting the ends of the tube and completing the ring. The perforated ring thus introduced will admit the saliva within the cyst and allow it to escape through the tube and into the mouth. The ring must be rotated daily, else the tissues may fill the openings in it, thus defeating the object of its insertion.—*Truman W. Brophy, Chicago, Dental Review.*



EDITORIAL

PROPHYLACTIC DENTISTRY.

We all practice it—to some extent. We all have faith in it and advise it as a rational means of preserving the teeth, provided the scheme can be carried out in the thorough manner that is necessary to meet with success. There are some dentists who can almost specialize in this line of practice. We say almost, because until the general public become properly educated as to the prophylactic idea emphasized, and that teeth kept absolutely clean cannot decay, and are willing to do their part in this decidedly co-operative measure, an operator can hardly avoid dabbling a little in the usual all-around practice of dentistry.

Owing to the fact that there are a whole lot of people who will come to us, whether we specialize or not, who have not yet been educated up to this higher plane of dentistry, or had not been until some teeth had become unsound, we have got to calculate on taking them as they come and practice repair first and then prevention for what remains, if we can convince such patients that it is never too late to adopt a good thing. And who can deny that it is a good thing?—the best thing?

Prophylactic dentistry ideally practiced, i. e., operating on teeth that have no need of remedy or repair, is the only painless dentistry known—except faith cure dentistry, and, as yet, we are not convinced that the latter either prevents disease or repairs the damage of the same, so far as teeth go. It is *painless*—unless followed too far and too long; then look out for live wires.

Taking youthful converts to this special prophylaxis, with perfectly sound teeth to begin with, and faithfully and fully in accord with the idea, willing to co-operate as required, and to visit the dentist as required, and such practice is really and truly painless; for there is no rubber dam, no boring, no gouging under the gums for

tartar; nothing to be done to cause pain. On the part of the patient it is simply giving the time needed and strict adherence to the prophylactic régime. That doesn't hurt. Is it not strange that the people do not fall over themselves to get in line? The scheme is plausible and correct. A tooth kept absolutely clean cannot decay.

Unfortunately we are up against the vagaries of human nature. Human nature is short-sighted, contrary, pre-occupied, prone to forget and obstinate. It has ever been so. If the medics could have influenced the world to observance and compliance with the rules of health and hygiene they have freely promulgated, a long list of human ailments, if not all, would have been prevented. This wilfulness, this blindness on the part of the people, this perversity and neglect make a place, with plenty to do, for both the doctor and the dentist. It is not as it should be, but is as it is. A few people may be educated to a faithful observance of the better way, and they will be the gainers; but the great majority will not see, though the truth may be blazoned on every wall, where he who runs may read, and will come stringing along to the dentist when they have to—when they are driven to it by serious symptoms or full-fledged aches and misery. And then, too, they are anxiously looking for painless dentistry.

Let us follow prophylaxis as much as we can, as thoroughly as we can; let us teach it, preach it and practice it every day, better if possible than we have done in the years gone by; but let us not all try to specialize as prophylactics. Let us, some of us, keep all our repair instruments and outfits and better them when we can, so that we may occasionally render some service to the poor benighted delinquents who are still with us and may be for some years to come; though the fault is all their own.

R. B. T.

DRAINAGE OF ABSCESSES.

In all cases of abscesses in the mucous tissues of the mouth I insist on the use of 95 per cent carbolic acid on the tent. A very small amount retained in the gauze or cotton is sufficient to cauterize the lips of the incision, making the opening freer, promoting the egress of pus and preventing the ingress of new infective material.—*G. V. Black, Northwestern Dental Journal.*

A TEXT BOOK OF OPERATIVE DENTISTRY. Edited by C. N. Johnson, and published by Blakiston & Co. 619 illustrations. Pages, 762. Price, cloth \$6.00; sheep \$7.00; half morocco \$7.50.

The editor and the many contributors of this book have accomplished something that is rarely seen in a work of this kind, in that the writers are all authors with but one or two exceptions, that have devoted some time to the thought, research and hard study upon the subject which they have written. The publishers have fulfilled in most every respect the wishes of the contributors and the editor.

In reviewing this book one is forcefully struck with the very first chapter that treats on anatomy of the human teeth. I believe that this chapter, covering fifty-eight pages, will stand out as a classic for a work of this kind. After having studied the microscopic appearance of teeth and also their relations in the jaw, I believe that this chapter will cover the essential points for the student's general work during his college term.

The chapter on filling materials, their characteristic indications for their use and the methods of manipulating them, covers so much of the very best in dentistry. The pages in the book devoted to this subject are so universally good that it would pay anybody, student or practitioner, to study this chapter. It covers the ground so thoroughly that it seems that not only the mechanical ingenuity of the student would be roused to its greatest effort, but the poetic inspiration with which the author has detailed his facts makes it read almost like a novel, and yet it has the true ring of scientific and thoughtful study. There is so much that might be said regarding this chapter that it would seem overdoing the thing to say more.

The chapter on porcelain inlays is another interesting feature of this book. It has not only been written by a recognized porcelain worker but by a master of art, and one cannot fail to enjoy many of the points that he makes in this article. There are some things, however, that I might personally criticise in this article, but it would be of such little importance that it is scarcely worth mentioning.

The chapter on orthodontia is one that seems should claim the attention of every practitioner of dentistry who is unable to become a specialist in this particular line. One of the interesting features of this chapter, to my mind, is the care with which the author details the importance of the mouth being kept in a hygienic condition during the process of regulating the teeth. There are many persons who

write upon this subject that fail to look carefully into this matter. There is a point in this connection that seems very important to me, and that is the time of life at which patients are to be treated for irregularities. The nervous condition at the time when orthodontia is to be applied, in the majority of instances, is one of the most important features in the history of the life of the individual. Of course, in this chapter I can realize that the writer could not go into this feature of the process in a brief chapter of this kind. But I think the time is not far distant when the patient will be examined and his physical and mental condition considered before regulating appliances are put into use. It is extremely important that some children's lives be thoroughly studied before treating a case of orthodontia. Many children that have irregularities of the teeth are also affected with some nervous condition that may be lost sight of until a great danger is done. I can realize that the author of this chapter could not go into and discuss anything other than perhaps from a mechanical standpoint of regulating teeth. But the time has arrived in our professional career, with so many able men in the field of orthodontia that we need some data with reference to certain constitutional features of the patient and an intelligent observation made as to what effect regulating appliances may have upon the nervous system, as well as the blood supply of the tissues of the body. Excitement of any kind that brings about stimulation to the fifth pair of the cranial nerves will increase blood pressure to some extent, but just to what extent I have not been able to go into very closely; and the slightest abnormality of blood pressure produces many physical conditions that must be worked out in the near future.

Taking this book into consideration from its various phases it looks as though it had become a masterpiece of work in text book making. We will say that many of the teachers in our dental colleges will object to the personal views of many of the writers, but I can say almost without fear of contradiction that there are the fewest of personal views in this book of any work that I have ever gone through. Every author seems to have tried to deal with his subject from the standpoint of facts rather than personal views. However, there are some chapters that I think could be criticised, but it is a question as to how far this criticism may be simply a personal view of the criticiser or that of offering facts against the ideas of the individual who is being criticised.



ABSTRACTS AND SELECTIONS.

EXPERIENCE WITH CAST GOLD INLAYS.

LUCIEN H. ARNOLD, D. D. S., CHICAGO.

For the last two and one-half years I have been using the cast inlay in my daily practice and in that time have put them in every conceivable position from incisors to third molars. Like its predecessor—the porcelain inlay—the gold casting is very useful, but to him who slighted even the smallest detail, it will surely prove a boomerang. The gold inlay, to be good, requires all the skill and care that any man can give it. I propose to take up the making of casting, step by step under the following heads:

1. Where inlays are indicated.
2. Separation.
3. Cavity preparation.
4. Cavity lining.
5. Wax and models.
6. Spruing.
7. Investing and materials.
8. Melting and casting.
9. Cooling.
10. Cleaning and pickeling.
11. The cavity surface.
12. Polishing.
13. Cementing.
14. Final trimming and polishing.

1. *Where Inlays Are Indicated.*—As stated, I have used cast gold inlays from Maine to Mexico, and barring the color, have found them good in all positions. The greatest advantage is derived from their use in the larger cavities in bicuspids and molars. In proportion, as the cavities increase in size, so the indications for a cast inlay become more pronounced. And for those huge cavities where it is a

question whether it is not best to crown, the inlay, with its infinitesimal yet binding layer of cement, decides the question in favor of the inlay. They are also especially good on occluding surfaces of molars, being harder than the foil fillings and after long use show practically no wear. Then those large proximal cavities in molar and bicuspid teeth where free separation would be needed in using a malleted filling or a matrix inlay, the cast inlay is of the greatest benefit as the separation for working space is not needed. For nervous people, children and old people, a first-class filling may be made with the cast process instead of it being necessary to resort to an inferior material. Again, some patients are exceedingly hard on the lower incisors and here the gold and platinum casting is very much superior to anything else that I have ever tried.

2. *Separation.*—As indicated before, the necessity for separation in using cast inlays is very much lessened and is only necessary to restore contour—none being needed for access.

3. *Cavity Preparation.*—Cavity preparation has been so thoroughly expounded by Dr. G. V. Black, and inlay cavities in particular, by Drs. C. N. Thompson, R. B. Tuller and others, that I will not dwell on it. One thing, however, I would emphasize, and that is that the joint between the filling and the tooth should be thrown in a protected position as far as possible and never allowed to fall on the summit of a cusp or other heavily occluding part.

4. *Cavity Lining.*—The neglect to line cavities liberally has caused me more or less trouble in cast inlay work. The rule is that all deep cavities must be lined liberally, as the increased density of castings made under pressure makes them better conductors of thermal changes than the malleted filling and hence the pulp needs the added protection. This can be accomplished by building in the base of the cavity before the wax model is made, either with cement or gutta-percha, by cutting away the wax after the model is made or by grinding away the inlay after it is cast. Whichever method is used, it should be carried out liberally to afford the pulp the added protection that is needed.

5. *Wax and Models.*—I have used many kinds of wax for models and have reached the conclusion that any *pure* wax that is hard enough can be used for this work with some degree of success. At present there are several kinds of wax on the market for this pur-

pose—some excellent, some good, some fair and some totally unfit for inlay work. I have found Taggart's wax the best, with Peck's and White's close seconds.

In using Taggart's wax I do not find it necessary to heat it in water, as is directed, but cut off a piece large enough to more than fill the cavity, thrust into it a thin instrument and hold it over an annealing flame turned as low as it will burn. Soon the outside of the wax will melt, when it is removed from the heat and allowed to cool till it will not run. The heat is then re-applied as before, and this time the wax is taken between the thumb and finger and flattened rather thin and again heated, till the surface almost flows. A little experience with this method will enable the operator to dispense with the cumbersome pan of water. At the last heating the wax is given a conical shape, the tip made as soft as may be without dropping and then pressed into the wet cavity, point first. Now, do not think that because you want the wax to absolutely and perfectly fill every corner of the cavity that it is going to do so without being forced into place. It will not do so much better than a similarly shaped cone of amalgam would. After the heated cone of wax has been pressed into the cavity, it must be forced to all the walls with a warmed instrument. If, after the patient has bitten on it, the wax proves to be too short, a little wax may be melted on the spatula and fused onto the model. By this time the wax will be hard enough to carve and the rougher parts of this work can be done with a warm instrument. Finally the whole of the exposed surface must be gone over with a little vaseline on the finger to smooth it. The contact point and some of the proximal surface may be smoothed after the wax has been fastened to the sprue wire, but great care must be exercised not to touch the margins.

6. *Spruing*.—This may seem like a trivial matter, but it may be made to serve more than one purpose. The gold should enter the mold made by the burning out of the wax, at the highest point in order that, if there should be any foreign substance in the mold it may be floated into the sprue, instead of being caught at some margin of the inlay. Often it is advisable to place the sprue on the cavity surface, thus preventing mutilation of the other surfaces. But in proximal cavities it will usually be found advantageous to sprue at the point of contact and by so doing take advantage of the extra bulk

left to have an absolutely tight contact point after polishing.

7. *Investing and Materials.*—As with the wax, so with the investing materials, there are many on the market and while some are fair, there are none that I know of that are right. All shrink more or less on prolonged heating or high heating. All that I have tried are hard to remove from the finished casting and are subject to more or less bubbling during investing, causing the little globes and segments of globes spoken of by Dr. Tuller in a recent article. The smoothed model on its sprue wire is first wet, then coated with a little of the investing material and the coating blown off, that the wax may be examined to be sure it is all covered, and then covered again, and flasked without jarring the flask.

8. *Melting and Casting.*—The melting should be done as rapidly as possible to avoid prolonged heating of the investment and should be carried considerably above the fusing point of the metal used as there is a very considerable loss of heat in casting and to insure a perfect reproduction of the wax the metal must be perfectly fluid when it arrives in the mold. As for the metal itself, I hardly think it can be heated enough to do it any injury. But when the investment is considered it will at once become apparent that there is a limit to the heat advisable to apply to metal contained in a crucible formed in such close proximity to the mold. There are three general methods of getting the molten gold into the mold. One by making pressure on top of the crucible, one by exhausting the atmospheric pressure beneath the mold and the third by utilizing centrifugal force to cast with. If there is a choice between the processes, I should say it lay with the so-called "vacuum" machines, though I have not had more uniform success with the one I have tried than with the pressure machines. The theoretical advantage with the vacuum machines is that the heat need not be discontinued when the casting begins. Whatever method is used, it is important that the casting force be maintained long enough that the gold may thoroughly crystallize in the mold before the pressure is removed.

9. *Cooling.*—Cooling should be as nearly uniform in sprue and casting as possible, in order that warping be avoided. Should cold water be turned on the sprue butt at once there may be a contraction which might affect the inlay.

10. *Cleaning and Pickeling.*—Cleaning the cooled casting is

best begun by using a stiff hand brush under the tap and persisting till every particle of the investing material disappears from sight. The piece may then be pickled by any of the well-known methods. If the unwashed inlay be dropped at once into sulphuric acid solution, a rather insoluble sulphate is formed which takes much time to remove.

11. *The Cavity Surface.*—The cavity surface must now be carefully scraped with a strong, sharp hoe and examined minutely with a good glass to be sure that every projection belongs there. This is a point where most of the cast inlay trouble occurs, unless it be in making the wax models. It is a good plan to go over the cavity surface with a small stone and grind off all small projections—except, of course, near the margins.

12. *Polishing.*—The exposed surfaces of the inlay are now to be polished in the usual way, with files, stones, burs and disks, leaving the extreme edges to be polished after the inlay is set.

13. *Cementing.*—If the lining or pulp protection has been of gutta percha, it is now to be removed and where this is the case it will not have been necessary to be so particular about removing projections on the base of the inlay. I do not favor, however, attempting to remove a cement base as one is liable to injure the cavity margins in so doing. Whether the inlay has been ground or the cavity lining has been removed, the inlay is now to be tried into the cavity to be absolutely sure nothing is amiss, the cavity dried, the cement mixed rather thin than too thick, depending on a perfect fit rather than on thick cement for permanence of retention. After the inlay is in place and all cement possible has been squeezed out, a strong driver is applied and continued light tapping is kept up on it with a mallet for some time, the exuded cement being wiped away from time to time to allow progress to be observed. When no more cement can be driven out the setting of the inlay may be considered finished. If burnishing the margins seems necessary, this is the time to do it, and then mallet again to be sure the burnishing has not unseated the inlay.

14. *Final Trimming and Polishing.*—It is my practice to polish the margins at a subsequent sitting, rather than risk the unseating of a freshly set piece.

It may not be out of place to say that an inlay needs all the

careful polishing of margins that any other good filling needs. No step, however trivial it may seem, may be slighted with impunity in this work. The "careless worker" would much better keep away from inlay work, as it will only bring him trouble. A small inlay takes more time than would be required to fill the same cavity with foil, but when the cavity is large, then the cast inlay is a blessing to the conscientious man who has given it time enough to master its exacting technique.—*Northwestern.*

A TRIP TO PANAMA.

MATTHEW HELLER, D. D. S.

I locked up my office here (Chanute, Kansas) on the 30th of December, and started for New Orleans. Through Texas it was very muddy and the only green vegetation was mistletoe in the tree-tops, but when I arrived in New Orleans everything was green, the grass and trees, roses were in bloom, oranges were hanging in some yards in the city, a golden yellow, and this was the first of January.

I took passage on a United Fruit steamer, "The Appomattox," on the 4th of January, and we left the wharf of New Orleans at 9 o'clock a. m. In passing down the Mississippi River we met and passed an Italian cruiser and two American gun boats. The distance from New Orleans to the Gulf is 113 miles, and we sailed into the Gulf just as supper was served.

The trip took six days and the only land in sight was the coast of Yucatan, which was very faint on the western horizon. I arrived in Bocas del Toro, Panama, on January 11th, at 9 a. m., and the sight from the harbor was grand, if you did not glance at the town-site. The harbor of Bocas del Toro is a large lagoon and would afford anchorage for several navies. There are two ways of getting into it and both are only about a quarter of a mile wide, several islands completely blocking the passages. The United States has permission to establish a coaling station there. The mountains rise seemingly out of the sea to a height of 12,000 feet on the Isthmus.

The town of Bocas del Toro is 140 miles by water from the Canal Zone. It is a banana shipping point, the United Fruit Company shipping from three to five shiploads of bananas to New Or-

leans every week. Each cargo means 30,000 bunches, and they are gathered from a great farm comprising 20,000 acres of bananas. They have a system of railways over the plantations to get the fruit to the river, where they are loaded on lighters and towed to the harbor, where they are transferred to refrigerator steamers. The town proper is built on piles in the sea; the walks are single boards nailed between posts two or three feet above ground, to allow passage without getting into the water. Some of the houses farther inland do not have water under them, but those that are directly over the sea are worth more and are handier on account of the freedom from mosquitoes, and then the water is the natural sewer, for what is emptied into it is carried out to sea on the tide.

Since the United States has made payment to Panama for the Canal Zone, that government is profiting from it; a certain sum is paid every year, which must be used for improvements, and at present the province of Bocas del Toro has a number of things to show for it, such as a new government building—two stories, of reinforced concrete—a concrete jail, a sea-wall around the town, and a sand dump is working day and night filling up the town back of the retaining sea-wall; some time this year they will have streets the same as other small cities. The population is mostly negroes, Spanish negroes, and Chinese, a few Germans and Americans. Almost all of the merchants are Chinese, the tailors and bakers are Chinese; there was one Chinese dentist, and he was a graduate of a Philadelphia dental school, but for doing practical work he could not make his hands do what his mind wanted them to do, and there were a great many dental operations that he confessed he did not try to do. Among the most peculiar things down there, were the high-keyed voices of the Jamaica negroes, and the custom of passing to the left of those whom you met. There was only one horse and wagon in this town of 10,000; that wagon was two-wheeled, belonged to the United States, and was used as a clean-up wagon to clear the town of rubbish. I took a bathing suit along, expecting to take a salt dip once in a while, but never got to go in once on account of the sharks. Some of the Americans down there spend their leisure hours fishing for sharks with a hook made of a round file, and a half-inch braided rope. I saw them catch one that was ten feet long, and they said he was of medium size.

I practiced dentistry for a solid month at Bocas in the office of an American D. D. S. who has been down there seventeen years, and he has never had yellow or malarial fever in all that time. The prices were good, and the patients varied from Germans, Chinese and Spaniards, to native and Jamaican negroes. The teeth in that country certainly do get in a bad state among the poor natives, which I think is caused from lack of any real solid things to eat, a great many subsisting on cooked plantain and bananas and a few vegetables that are soft. The negroes don't present you a glistening row of ivories like we are used to seeing here; they have either lost several in front, or they are ready to fall out of their sore and spongy gums.

About the second week in February I embarked in a sailing vessel sixty feet long for Colon, Panama, the eastern terminus of the canal. It was 140 miles away and the captain and crew were Barbados negroes and Cheriqui Indians, and I don't care to repeat that trip, for I believe we traveled twice that distance on account of going up and down so many mountainous waves in the Caribbean Sea. There was only one berth in the vessel and that was the captain's, but he gave it to me, and I could see through the hatch at night and wish the journey at an end. It terminated at the end of twenty-four hours. We tied up at Colon and the United States government doctors came on deck, and you had to be able to show a vaccination scar or you got one before you could land. No one is allowed to land there without being vaccinated.

Colon is quite a respectable city—streets paved with brick, cement curbings, cement walks, electric lights, and sewer and water systems. All of this has been done by the United States and deducted from the Canal Zone payment to the Panama government. All cisterns and water tanks have been done away with, and everyone is compelled to use the city water, which is either piped from the mountains or boiled in the pumping station at Christobal. If you are a government employe you can get meals in Christobal for 30 cents, and they are good, too, but if you are not, you can go to a fairly decent hotel in Colon, and get something to eat for from \$1 to \$1.50, and the cheapest room possible at the Imperial was \$2 per night. The Imperial is the best hotel in Colon, and day rate is \$5 a day gold, or \$10 a day in Panama silver, or as the Americans call it—"monkey" or "tin" money.

Colon and Christobal are on opposite sides of the railroad and the former is in Panama territory, and the latter in the Canal Zone, but here there is not a store, only residences of employes, the large bakeries, laundry and cold storage plants for the whole Canal Zone. There are thousands of Americans in the Zone, and they have to have what they have been used to at home—therefore there are government bakeries, laundries, and cold storage plants. The day I went through the bakery, they had just finished 128,000 loaves of bread, the storage plant had tons of frozen beef and chickens, and the milk was frozen solid in the cans direct from New York.

I went over the Panama Railroad to the City of Panama, stopping at Culebra for a day and at Empire, and here you pretty nearly forget you are in the tropics, because Americans predominate, and the railroad ships are busy and whistles and bells sound homelike. The City of Panama has very narrow streets, but they have been paved and the Canal Commission regulates sanitation here also. They have bull fights and cock fights advertised every few days.

I will not attempt to say anything about the digging of the canal, except that the dirt and rocks are getting away from the track of the American invasion at a lively rate.

M. D.s are plentiful in the Canal Zone, furnished by the United States, but there is only one D. D. S., and he is located midway between the ends of Empire, and has a good practice. There are dozens of settlements in this forty-seven miles, and if anyone needs tooth attention he has to go to the City of Panama, Colon or Empire. There is one American D. D. S. in Panama, one American graduate D. D. S. in Colon, and two advertisers in one office besides the one at Empire, to take care of 50,000 people of the Canal Zone, aside from Colon's population of 10,000 and the City of Panama, 40,000.

I was fortunate in being able to see some native Cheriqui Indians that hack the angles off of their children's incisors to make them all pointed, the same as a cuspid, and I also was able to put some gold fillings in some teeth for the older ones who had suffered from caries starting in these exposed surfaces of dentin. I asked one woman (in Spanish) if this was not a very painful operation for the youngsters, and she said, "They make a fuss, but you just get their heads between your knees and take a knife blade, and keep hacking at the corner until you break it off, piece by piece."

I took passage on another steamer the 20th of February, and after beating against a brave sea and sighting some of the Barbados Islands and Cuba, arrived in New Orleans six days later, glad to be back in the United States. Two days later I was in my office and near my wife and little four-year-old boy, whom I had not seen for nine weeks.—*Northwestern.*

TRIGEMINAL NEURALGIA, CAUSED BY CHANGES IN THE TEETH.

BY DR. WALLISCH.

(*Wiener Klin. Woch.*, June 11, 1908.)

According to the author's observations upon a large number of cases, very severe neuralgias are often referable to teeth which are apparently sound, or provided with a well-borne filling. Teeth with very large fillings, and stumps of teeth, are especially suspicious in this connection. These large fillings are apt to exert a chronic irritating influence upon the pulp, with the result that a painless disintegration of the pulp occurs which may be followed—sometimes not until years afterwards—by hematogenous infection, giving rise to inflammatory changes and pain. The cause of neuralgic symptoms is often referable to teeth, the pulp of which has decayed without any demonstrable reason. In these cases the process may be recognized by a more or less well-marked discoloration of the teeth. Individuals having no teeth at all may suffer from facial neuralgia as the result of pressure upon the alveolar margin. The pain subsides, as a rule, after resection of the corresponding portion of the alveolus.

Inflammation and empyema of the antrum of Highmore very frequently are the cause of facial neuralgia, the pain sometimes radiating into the teeth. The nerves in the antrum of Highmore are encased, as a rule, in bony channels, and irritation of the nerves may accordingly be produced by a slight swelling of the mucous membrane. Neuralgia may manifest itself also as the result of cold, due to the exposed position of many trigeminal branches, giving rise to the so-called rheumatic toothaches.

Hysterical tooth-aches and neuralgias also have been observed, the patients being possessed with a morbid desire for extraction of

all their teeth, going from one dentist to another, until the last tooth has been sacrificed (the obsession "dentaire" of Charcot). The diagnosis in these cases meets with great difficulties, and can be rendered only after very accurate observation of the entire general condition. It is, of course, possible for hysterical individuals to have a true neuralgia of dental origin.

Affections of the entire trigeminal area are extremely rare, and they are suggestive of a central origin. It is likewise very uncommon for a trigeminal branch to be affected with neuralgia in all its ramifications. The more the neuralgia is limited to the finer nerve-twigs, the greater the probability of a peripheral causation. The twigs of the second trigeminal branch are the subcutaneous molar nerve, the spheno-palative nerve, the superior alveolar nerve, and the infra-orbital nerve. The pain is accordingly localized in the skin of the anterior portion of the temple and the external portion of the forehead in the superior maxilla and its teeth, but especially in the region of the lower eyelid, the lateral portions of the nose, the cheek, and the upper lip. The chief pressure-points are the infra-orbital and molar points.

DENTAL MASSAGE.

BY W. H. MITCHELL, D. D. S., BAYONNE, N. J.

The subject I bring to your attention this evening, Massage, is one that is far from new. Frequent reference has been made to it in our dental discussions in society meetings and by writers in our periodical literature. Yet beyond the mere rubbing with the fingers I have failed to find described any method of manipulation suitable for dental practice. True, there are several type of large machines suitable for the general practitioner, and even the barber is provided with a proper equipment. At the same time I doubt that more than a very few dentists have installed these in their operating rooms. Further they are not adapted for use inside the oral cavity.

It is now fifteen years and over since the rubber tooth brush was called to my attention. As a trial I prescribed its use by a patient with an advanced case of erosion and recession. This mouth was clean with a capital C. Not the slightest hint of gingi-

vitis or pyorrhœa. The gum tissue pink, firm and healthy. I constructed a nice lot of gold crescents in all the lower teeth in front of the second molars. Following the use of the rubber tooth brush, the recession STOPPED, and none of the fillings have had to be renewed. I advised the use of the rubber tooth brush to avoid the abrasion of a dentifrice and to abandon the bristle brush as I thought it hastened the recession. I feel sure today that it was the massage applied that improved the conditions. Since that time I have continued to prescribe the rubber tooth brush in cases of recession, gingivitis and following the local treatment for pyorrhœa.

It is now nearly a year since I cast my first little vibrator, and called the dental engine to assist me, since then its use has been a growing satisfaction to me and I feel confident has added to the comfort of my patients. I shall not go into the subject as to whether it is arterial or lymphatic stimulation that is induced by rapid vibrations. Dr. H. J. Allen's able paper published in the March, 1907, *Cosmos*, p. 305, covers this subject so well that little can be added. Dr. A. W. Harlan in the same number of the *Cosmos*, p. 282, advised thorough massaging of the gum tissue following the treatment of pyorrhœa locally and with the blue light. In a discussion before the Massachusetts State Dental Society, Dr. Eugene S. Talbot, of Chicago, supplements his own paper (*Cosmos*, p. 1500, Dec., 1905), calling attention to the inability to reach and properly massage the gums with the fingers, at the same time advising the use of a very stiff bristle brush, claiming the resultant hemorrhage hastened the cure during the healing, from phlebotomy. This is the very opposite of the light, gentle tapping recommended by Dr. Allen and that I have found sufficient. In my opinion it is a good deal a matter of speed or rather rapidity of the vibrations that conduces to the results attained. The multiplicity of very gentle blows being rapidly applied directly to the part that needs stimulation.

The simple little device that I exhibit this evening, is very simple of itself, yet it possesses the widest possible range of movement.* It allows all possible finger movements and at the same time

*The Vibrator shown is a segment of a circle fixed to a bit and held in the engine. Holding the hand piece with the segment revolving rapidly, the vibration is transmitted through the fingers to the point on the gums or face to be massaged.—P. B. McCullough, Editor of *Academy Proceedings*.

leaves the operator's hand and fingers free to use the instrument and to better apply the vibrations to the affected parts. There seems to be a tendency to use the massage treatment more than we have ever done before. The result observed seems to indicate that massage will be used still more as the profession comes to see the benefits that are to be derived from using it in daily practice.—*Dental Brief.*

THE FAMILY PHYSICIAN AND SPECIALIST—THE SPHERE OF EACH AND THEIR RELATIONSHIP.

BY A. K. WEST, M. D., OKLAHOMA CITY.

That the interest of the patient is paramount; that the interest of the specialist, as well as the family physician, are to be conserved; that unkind feeling, bickering and petty jealousy among physicians is deplorable—these three propositions are scarcely debatable. The investigation, therefore, of any condition unfavorable to the first two, and lending itself to the third, is undeniably worth while. Disputed boundary lines have always been a fruitful source of bitter contention, quarrels between neighbors, suits at law between states, and even war between nations.

It is the boundary line between the general practitioner and the specialist in medicine that we propose to discuss in this paper: The metes and bounds, the privileges and limitations, the line of demarkation, where the rights of one doctor end and another begins, is admirably set forth in the American code of ethics. But the specialist, this newer and very valuable addition to our body fraternal—now so common—is not specifically recognized, is not considered as a separate class in our organic law, but all physicians are dealt with as belonging to the same class, having the same sphere of activity. The fact, however, remains that there are two distinct classes, with different spheres of usefulness, and to clearly recognize this will be a momentous gain to all parties concerned. To illustrate this overlapping of boundary lines, take this picture, exaggerated and improbable though it be, still quite possible: The Smith family had always employed Dr. A. as their family physician, the guardian of the family health in general; he had treated father through pneumonia, nursed mother through typhoid fever, officiated at the advents of all the little Smiths, helped them to run the gamut

of teething and summer complaint, whooping cough and measles, diphtheria and scarlet fever. Now, after years of patient observation, familiarizing himself with the family idiosyncrasies and personal peculiarities, he finds that their father employs Dr. B., a specialist, to treat his rectum, mother has Dr. C. to treat her uterus, brother has Dr. D. to treat his eyes and sister has Dr. E. to treat her nerves—all independent of and even ignorant of the existence of a family physician or of each other. Now, this may all be and still be technically ethical; but, in truth, is it ethical in a broad sense? Is not the spirit, if not the letter, of the ethical code violated? Let us see. The reason for, indeed the only excuse for the existence of our code of ethics, is that in its observation the body medical is more perfectly fitted to perform its function as a public servant. Tactily recognizing the interest of the public (our patients) as of primary importance, and secondarily the interest of the individual physician, if then the above state of affairs be detrimental to the interest of the patient, or of the physician, it must be classed as unethical. That it is detrimental to both seems uncontrovertable. Now, follow me carefully: When the above pictured conditions obtain the interest of the patient is in twofold jeopardy. 1st—The knowledge of past illness, family traits and hereditary tendencies in possession of the family physician is lacking to a great degree, the value of which to the specialist would be hard to overestimate. This, of course, favors an error in diagnosis and always has a bearing in treatment no matter what special organ is involved. 2d—The habit of employing a specialist without the knowledge or consent of the family physician increases the danger of the patient falling into the hands of the faker who is only a specialist in extracting money from the pockets of the unwary. Now, as to the physician. He loses the fee which ought to be his by contributing valuable assistance to the specialist called, and the specialist loses the help on the case which might have been supplied by the physician, lessening his chances of an early and correct diagnosis, and a subsequent successful treatment. His popularity, his whole career indeed, depends upon the number of cures, and he can ill afford to lose any data or history which has any bearing upon a given case. And again, without the allegiance of the family physician the specialist is forced to compete to a greater degree with the charlatan whose picture appears in the Sunday paper, and a great many of the victims of these

grafters might be turned into the hands of the legitimate specialist to the advantage of the physician, specialist and, most of all, the patient. Nor is this all. Another danger yet threatens the welfare of all three parties whose relations we are discussing. The physician, seeing a considerable portion of his practice going to this, that or the other specialist, without consultation or recognition, is prone to develop sore spots, feeling that he has been ignored, turns a sour face upon the whole class, uses his influence to keep such patients as he can control from getting the benefit of specialized knowledge and skill, prolongs his patients' invalidism by palliatives, debasing himself, defrauding both the patient and the specialist. This, gentlemen, is no fancy picture, but is based upon personal observation of conditions in my own city, and I am sure differs little from the state of affairs in the larger towns and cities of our country.

But how, you may ask, can this anomalous condition be changed? The patient has a right to call in a specialist without the consent or knowledge of his family physician. True, so also has he the right to call one, two or three physicians in to see him without the consent or knowledge of his attending physician in any case of illness, and the only reason it is not more frequently done is because we as physicians, refuse to go in such a case. We explain to him that it is not for his good, a courtesy to the attending physician and a detriment to the usefulness of the profession as a whole, to countenance such action. In other words, we protect the patient against his own foolishness, incidently preserving harmony and greater effectiveness by insisting upon a consultation.

Now, is there any reason why the physician and the specialist should not act conjointly in educating the people as a whole upon this very point with like good results? We think not. The first pre-requisite to an ideal relationship is a wholesome mutual respect the one for the other, recognizing the value of, on the one hand the general knowledge and accumulated observation possessed by the family physician, and on the other the value of special erudition and skill, the result of concentration of study, possessed by the specialist. This would naturally lead to co-operation and more frequent consultations, less friction, and consequently more effective therapeutic measures, to the profit again of the patient, physician, and specialist alike. With this mutual recognition and esteem once established,

the physician would more frequently call the specialist to his aid, and always, mind you, the real specialist, not the spurious; the case not passing out of his hands completely at all. If operative procedure is indicated, he would be present at the operation to see exactly what is done, and in such cases as the interest of the patient does not contravene, take complete charge again during convalescence. The attitude of the specialist would promote the same end; when a patient applied to him directly, he would at once find out who the family physician was and explain to the patient that his counsel and advice would probably be of service, and suggest that before taking any radical steps in treatment that he be called in consultation and kept in touch with the case.

Again, let me remind you that this ideal relation likewise is no mere dream, but indeed is the relation already existing between myself and several specialists in our city to whom I am glad to render acknowledgment for much valuable assistance.

Now then, the fee question; so much and so unintelligently discussed. With a clear analysis of this triune relationship, the question of fees is quite simple and hardly admits a discussion.

"The laborer is worthy of his hire." The man who renders the service is entitled to the honorarium; fee-splitting or dividing, no matter how you qualify, modify, phrase or tone it, is an unmitigated evil and the very name is distasteful and a reproach to the medical profession. Sad to state, however, division of the fee is not uncommon. If you think it is, go and inform yourselves. At the last meeting of the Oklahoma State Medical Association a written agreement was circulated among members of a certain specialty for signatures, to the effect that they would cease or refrain from paying commissions or splitting fees with practitioners who call them in consultation or refer them cases. Think of it! What a commentary on the ethical status.

Again, only a few months ago I received a long letter from a specialist in St. Louis whom I have met at state associations, defending and explaining his own particular method of dividing fees. How beautiful his sophistry! How he did love the family physician and under no circumstances would he take the whole fee and leave the poor, hard working, patient family doctor go hungry. He had the nerve to send me a self-addressed return postal card, asking me what I thought of his generosity. (Shrewd move to size

up his man.) I used the card, giving him my opinion—it has not changed since—that he was merely indulging in a cheap and contemptible bit of unprofessional advertising. But this is a digression. When the family physician refers a case to the specialist he should not feel that the case is discharged, but rather that he has assumed a further responsibility. He undertakes to see that the specialist's work is skilfully done, and no more than a just fee is charged, your building; for instance, plumbing, and the specialist when consulted by the patient should explain the value of co-operation with the family physician, fix the consultation fee, and if a case in which a certain amount of general treatment is likely to be called for, the probable cost of that also, and the advisability of having his family in the same sense that your general contractor assumes the responsibility for the proper workmanship and price of special work in physician supply it. The bills should be rendered separately so that the patient will know just what he has to pay for the special, and what for the general service, each rendering a bill for actual service, with the knowledge and consent of the other. To do things all in the open is a great safeguard against temptation as a general proposition and applies in medicine as well as elsewhere.

To reiterate—the man that actually does the work actually deserves the fee, and no more; and any fee-splitting or money changing hands between the physician and the specialist, except for services rendered the patient, should brand the one either a pimp or a pauper, and the other a grafted, for it is clear that the physician and the specialist are indebted the one to the other in terms of money paid, over and above the fee earned for actual service.

What then, in a few words, would be the sum total of results following this mutual recognition of each other's supremacy in his own field. The physician would refer much more work to the specialist—this to the advantage of the specialist; many more patients would get the benefit of special, often life-saving skill, instead of being held under palliatives for fear of losing practice—this to the profit of the patient; many more consultations and applications of general medical knowledge in preparatory and after treatment would fall to the lot of the family physician, this to the benefit of the general practitioner. This triple gain fulfills the spirit as well as the letter of an intelligently applied code of ethics.—*Oklahoma Medical Journal.*



MEETINGS

IOWA STATE DENTAL BOARD.

The Iowa State Board of Dental Examiners will hold its next examination at Iowa City, December 1, beginning at 9 a. m.

Practical examination in Operative and Prosthetic Dentistry. All fees must be in the hands of the secretary by November 15.

Le Mars, Iowa.

E. D. BROWER, Sec'y.

INDIANA STATE BOARD.

The next regular meeting of the Indiana State Board of Dental Examiners will be held in the State House at Indianapolis, beginning Monday, January 11, and continuing four days.

All applicants for registration in the state will be examined at this meeting. For further information, blanks, etc., apply to the secretary,

F. R. HENSHAW,
Middletown, Ind.

EASTERN ILLINOIS DENTAL ASSOCIATION.

The fifth annual meeting of the Eastern Illinois Dental Association will convene in Paris, Ill., November 17 and 18, 1908.

The sessions and clinic will be held at Commercial Club rooms.

A good program is being arranged and efforts are being made to make this the most successful meeting in the history of the association.

Distinguished members of the association from out of the state will be present. All ethical members of the profession are cordially invited to come.

J. E. ADAMS, Chairman,
GUY S. CORLEY,
DR. LAMB,
Executive Committee.

WEST VIRGINIA DENTAL ASSOCIATION.

The West Virginia State Dental Association held its annual meeting in Fairmont, W. Va., October 15-17, and elected the following as officers for the ensuing year: President, Dr. J. E. Dowden, Fairmont; first vice-president, Dr. John H. McClure, Wheeling; second vice-president, Dr. L. G. Walker, Grafton; secretary, Dr. F. Wright, Wheeling; treasurer, Dr. D. L. Walker, Blacksville. The next meeting will be held in Wheeling the second Wednesday in October.

ILLINOIS STATE BOARD OF DENTAL EXAMINERS.

The annual meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practice dentistry in the State of Illinois will be held in Chicago, at the Dental Department, University of Illinois, corner Honore and Harrison streets, beginning Monday, November 9, 1908, at 9 a. m.

Applicants must be in possession of the following requirements in order to be eligible to take the examination: (1) Any person who has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other state or country for five consecutive years just prior to application; or (2) is a graduate of and has a diploma from the faculty of a reputable dental college, school, or dental department of a reputable university, or (3) is a graduate of and has a diploma from the faculty of a reputable medical college or medical department of a reputable university, and possesses the necessary qualifications prescribed by the board.

Candidates will be furnished with proper blanks and such other information as is necessary, on application to the secretary. All applications must be filed with the secretary five days prior to the date of examination. The examination fee is twenty (\$20) dollars, with the additional fee of five (\$5) dollars for a license.

Address all communications to J. G. Reid, Secretary, 1204 Trude Building, Chicago, Ill.

AMERICAN DENTAL JOURNAL.**EMPIRE STATE DENTAL ASSOCIATION.**

The following officers were elected October 14 at the second meeting of the Empire State Dental Society, held at the Hotel Seneca, Rochester, N. Y.: President, Dr. C. S. Decker, Binghamton; first vice-president, Dr. E. F. Hanks, New York; second vice-president, Dr. H. S. Pullen, Rochester; secretary, Dr. H. C. Webb, Syracuse; treasurer, Dr. M. J. Evans, Utica. The executive committee chosen consists of Drs. F. W. Cady, Rochester, chairman; F. S. Belding, Rochester; R. Q. Mills, Rochester; W. A. Rowlands, Utica, and A. C. Fisher, Syracuse.

DENTAL ASSOCIATION OF PROVINCE OF QUEBEC.

The Dental Association of the Province of Quebec held its annual meeting September 16 in the Laval University Hall in Montréal, Can. The election of officers resulted as follows: Dr. P. J. Berwick, Montréal, president; Dr. A. Landrier, Quebec, vice-president; Dr. Dubéau, Montreal, secretary; Dr. C. F. Morrison, Montreal, treasurer; Dr. G. W. Oliver, Montreal, registrar. The council chosen was as under: Dr. J. H. Bourdon, Montreal; Dr. J. W. Fournier, St. Hyacinthe; Dr. F. J. Broomfield, Sherbrooke; Dr. J. H. Springle, Montreal; Dr. F. H. Stevenson, Montreal; Dr. Scott-Ives, Montreal.

MINNESOTA STATE BOARD OF DENTAL EXAMINERS.

The next regular meeting of the Minnesota State Board of Dental Examiners will be held at the Dental Department of the State University in Minneapolis, Minn., on November 10, 11, 12, 1908. All applications must be in the hands of the secretary by November 1. For further information address DR. GEO. S. TODD, Sec'y,
Lake City, Minn.

MISCELLANEOUS

TREATMENT OF ABSCESES.

Thymol dissolves in oil of eucalyptus and forms a valuable agent in the treatment of alveolar abscesses, especially the mild forms of chronic blind abscesses.—*Geo. W. Cooke, Western Dental Journal.*

THE GUARANTEE MAN.

This kind of non-professionalism will be stopped when ethical dentists work in harmony and inform their patients that the dentist who guarantees an operation is either ignorant or he is a quack.—*Thomas J. Suggs, Aurora, Mo., Review.*

WEIGH YOUR GOLD.

One of our subscribers suggests that dentists weigh their gold when they buy it. He intimates that some dealers are sending out gold plate and solder short of weight, and that a just discrimination should be made between the honest dealers and the others.

SILK FIRST—THEN THE CLAMPS.

I desire to call attention to the application of one or two ligatures in placing a clamp upon a tooth. One circle of floss silk will prevent the clamp from impinging upon the gum. If the tooth is cone-shaped, two should be put on; one will prevent the clamp from moving upward, and the other from jumping off, and there will be saved the pain from impingement.—*Dr. N. C. Register, Brief.*

TO HASTEN THE SOLUTION OF GUTTA-PERCHA IN CHLOROFORM.

Chlora-pércha gets out of service now and then when it is much needed because of loss of chloroform through evaporation. To get it into shape again for immediate use, add the solvent and immerse the container in a dish of hot water. The chloroform begins to boil forth-with and the material is ready for immediate application.—*Dental Office and Laboratory.*

MOUTH BREATHING.

Mouth breathing is a very potent and common contributory cause of phthisis, and in many cases this pernicious habit is formed as the result of carious teeth in early life. The child is afraid to close its jaws, and not only acquires the habit of bolting its food, but also, to avoid possible painful contact of the teeth, keeps them open sufficiently to part the lips, and commences to breath through the aperture thus formed.—*F. Lawson Dodd, British Journal of Dental Science.*

HARD TO PLEASE.

If we publish jokes, people say we are rattle-brained. If we don't, we are fossils. If we publish original matter they say we don't give them enough selections. If we give them selections they say we are too lazy to write. If we don't go to church we are heathens. If we do go we are hypocrites. If we remain at the office we ought to be out. If we go out then we are not attending to business. If we wear old clothes they laugh at us. If we wear good clothes they say we have a pull. Now, what are we to do? Just likely as not some one will say that we stole this from an exchange. So we did.—Stolen again.—And again.

"ANTE-MORTEM" APPRECIATION.

Some of the most popular and appropriate gatherings of today, as far as dentists are concerned, are the number of banquets given in honor of men, who have by their personal and professional life demonstrated their worthiness. Every state has men who are entitled to honor and the time to honor them is while they are here to participate with you. The acceptance of loving cups, honors and kind words, is apt to be more agreeable to all interested, if the recipient is around in health and spirits, rather than when the only spirit is that contained in the embalming fluid. The complimentary dinners given to Drs. Wm. Jarvie, R. Ottolengui, G. V. Black and J. D. Patterson, indicate that the custom is spreading, and let us hope in every community the worthy man, or men, may be likewise honored, and made to feel the world appreciates their true value.—*J. P. R., Western Dental Journal.*

BROKEN ENGAGEMENTS.

The matter of charging for broken engagements has often come up in the courts and it has been decided that the dentist has the right to charge for time actually wasted. That is, if he makes an appointment and the patient fails to keep it and he does not use that time for other purposes of his profession, he is entitled to the same fee he would have earned by performing the contemplated operation. If, however, he does use that time operating upon some other person, he cannot collect from the first party. These rulings are justified by the fact that a professional man's time is the capital whereby he earns a livelihood. If a certain part of that is set aside and not used, the one causing the waste by his failure to arrive at the appointed time should compensate the dentist for this loss of capital. But, if there is no loss, there should be no penalty.—*C. S. Ayers, in Pacific Gazette.*

DECENT CLEANLINESS.

We've had lectures on sterilization and prophylaxis galore, but there's one important point, I think, in connection with these subjects which has not been given its share of attention. That is our operating room. If you would have a perfect dental surgeon's operating room you would want a place with plenty of light, good ventilation and furnished with only the articles necessary for dental use. I've seen a number of these so-called swell operating rooms, which looked to me more like a picture gallery and play house combined than anything else.

On the floor should be linoleum, which makes the best of covering, and which also can be scrubbed and cleaned without raising dust particles and bacterial deposits which are sure to abound in carpets and rugs. The walls need not be decorated with pictures, as these catch dust deposits.

Use napkins on the head-rest of your chairs and don't get frightened if your laundry bill is high. Scrub woman's bill may also be high, but remember, Dr. Operator, everything connected with dentistry should be so very clean that you couldn't better it if you tried.—*Odontoblast.*

PERSONAL AND GENERAL

Fire.—Dr. R. F. Lesslie, a dentist in Columbus, Ohio, suffered the loss of \$400 by fire September 24.

Town Without Dentist.—Hamilton, Ind., is without a dentist. Dr. Courter, the only resident dentist, having moved to Ft. Wayne.

Bankrupt.—John P. Hepworth, a dentist at Wappingers Falls, N. Y., has filed a petition in bankruptcy, with liabilities of \$6,019 and no assets.

Fire.—Dr. O. D. Faust, at Banberg, S. C., suffered complete loss of dental office through fire which destroyed the block in which he was located; loss \$400.

Tetanus from Extraction.—Mrs. Arthur Walters, twenty-five years old, of Belvidere, N. J., died October 13 from lockjaw, resulting from the extraction of 14 teeth.

Dies from Extraction.—Andrew Hogberg died at the Englewood Hospital, Chicago, from septicemia resulting from the extraction of a tooth two weeks previously.

Campbell-Romeiser.—Dr. Tom K. Campbell, a dentist in Chillicothe, Mo., and Miss Lena Romeiser, also a resident of that city, were married in Kansas City October 10.

Gardner-Carr.—Dr. Joseph A. Gardner, a dentist, formerly at Ripley, Tenn., and now located in Memphis, and Miss Virginia Carr, also of Memphis, were married October 4.

Dental Society Disbands.—After an existence of twenty-five years the First District Dental Society of Illinois disbanded September 30. Its place will be taken by the Peoria County Dental Society.

Gas Kills.—G. A. Quayle, a retired merchant living in Morristown, N. J., died October 16 while under the influence of nitrous oxide gas in the office of a dentist in New York City. Heart disease is believed to have been the inducing cause.

Macon-Moultry Dental Society, a branch of the Illinois Dental Society, held the first of its winter meetings October 10 at Decatur. A paper on "Business Aspect of Our Profession," was read by H. P. Bachman and was generally discussed.

Dr. C. N. Johnson Honored.—Dr. C. N. Johnson of Chicago having been engaged by the Fond du Lac Woman's Club to give an address in that place October 9, the dentists of Fond du Lac and neighboring cities took advantage of his presence and gave a banquet in his honor.

New Society for Milwaukee.—A new society to be known as the Milwaukee County Dental Society was organized October 2. The following officers were elected: President, G. P. Brenner; vice-president, C. L. Babcock; secretary, Reno Weiss; treasurer, F. H. Berry; librarian, Wm. Hopkinson.

Dies in Dental Chair.—Miss U. P. Atkins died October 7 at Warren, Pa., as a result of an anesthetic given for the purpose of having some teeth extracted. She had been examined by a physician and pronounced sound. The teeth were extracted, but she failed to recover from the effects of the chloroform.

Blair-Varney.—Dr. George M. Blair and Miss Primrose Varney, both of Barry, Ill., were married September 24. Dr. Blair is a senior student at Northwestern University, and Miss Varney is a daughter of Dr. F. G. Varney, a dentist at Barry, and a sister of F. D. Farney, of the Varney Dental Company, St. Louis.

Dr. Davenport Honored.—Dentists to the number of forty from all parts of the state of Massachusetts gave a banquet in honor of Dr. A. F. Davenport of North Adams, 80 years of age, who had practiced for fifty years. A handsome gold-headed cane was presented to the venerable doctor as a token of their regards.

Robberies.—Drs. Clark and Everett, Toronto, Canada; loss \$75. B. F. Kirk, Detroit, Mich.; loss \$34. E. T. Comstock, North Tonawanda, N. Y.; loss \$40. W. F. B. Colter, Sarnia, Ont.; loss \$40. M. A. Donahue, Port Huron, Mich.; loss \$26. Dental Supply Co., Toronto, Canada; loss \$360. Bentley, Smith and Santo, London, Canada; loss not given.

Morgan County Society.—A branch of the Illinois State Society, held a meeting in Jacksonville, October 1, with a fair attendance. Papers were read by J. C. Widenham and C. B. Sawyer and a clinic was given by C. B. Powell. Officers for the ensuing year were elected as follows: President, J. C. Widenham; vice-president, C. B. Powell; secretary and treasurer, Charles Hopper; librarian, C. B. Sawyer.

Dubuque District and County Society.—The joint meeting of these two societies was held in Dubuque, September 22. A paper was read by Dr. J. F. Conover, on "The Uses and Abuses of Ascher's Artificial Enamel," and was discussed by Drs. Conzett, Topliff and Taylor. The following officers were elected for the ensuing year: J. F. Conover, Decorah, president; D. J. Heisly, Dubuque, vice-president and superintendent of clinics; W. L. Mullen, Dubuque, secretary; C. H. Jacobs, Colesburg, treasurer. The next meeting will be held in Decorah.

Nashville Dentist Honored.—Dr. W. H. Jones, one of the oldest dentists in point of practice in Tennessee, was tendered a magnificent banquet in that city October 8. Dr. Jones has practiced dentistry since 1852 and for the past twelve years has been president of the Tennessee State Board. He will retire from active practice and make his home in Toledo, Ohio. At the conclusion of the banquet he was presented with a handsome gold headed cane.

Removals.—Dr. C. O. Chunn, from Jacksonville, Fla., to New Orleans, La.; B. H. Boerger, from Milwaukee to West Allis, Wis.; G. E. Kuhl, from Detroit to Saline, Mich.; Roy S. Barney, from Charlotte, Mich., to Charlevoix; Frank Holmes, from Kalamazoo, Mich., to Galesburg, Mich.; William Little, from Gallitzin, Pa., to Cresson, Pa.; Courtnier, from Hamilton, Ind., to Ft. Wayne; A. M. Yessler, from Chicago to Woodstock, Ill.; Edward McCurdy, from Cincinnati to West Union, Ohio; E. N. McDowell, from Marseilles, Ill., to Woodstock, Ill.; F. H. Roberts, from Burlington, Wis., to Prairie-du-Sac, Wis.; I. A. Wood, from Gaffney, N. C., to Shelley, N. C.; Arthur Hall, from Valparaiso, Ind., to Michigan City, Ind.; G. S. Hershey, of Michigan City, Ind., out of practice; Taylor, from Milwaukee, Wis., to Delavan, Wis.; Roland Hanke, from Milwaukee, Wis., to Plymouth, Wis.; J. A. Thomas, from Collegeville, Pa., to Reading; T. A. Allen, from North Carolina to Athens, Ga.; A. C. Aldrich, from Lyons, N. Y., to Columbus Grove, Ohio; A. M. Steeley, from Louisville, Ill., to Quincy; G. R. Roberts, from Waterloo, Iowa, to Independence, Iowa; R. D. Kiley, from Salem, Mass., to Fall River, Mass.; C. D. Kellogg, from Lime Spring, Iowa, to McIntire; C. C. Nugent, from Fargo, N. D., to Minot, N. D.

Frank A. Ruf Honored.—His Imperial Majesty, the Shah of Persia, for the second time has, through an imperial firmin, honored a citizen of St. Louis by conferring the decoration of the Order of the Lion and the Sun upon Frank A. Ruf, president of the Anti-Kamnia Company, No. 1622 Pine street. In the first instance David R. Francis was thus distinguished for his successful efforts in bringing Persia into prominence at the World's Fair.

Mr. Ruf did not merit this decoration because his tablets assuaged any particular pain of his imperial majesty, but because the St. Louisan's fame as a connoisseur of Oriental fabrics, especially Persian rugs, had reached his Majesty's ears.

The ceremony of bestowing the decoration took place in the private anteroom in the rear of Mr. Ruf's office; a room whose walls, floors, divans and balustrades are hidden by Persian rugs of exquisite design and color, many of which are hundreds of years old and cost fortunes.

After Vice Consul Milton Seropyan had pinned the handsome decoration upon the breast of Mr. Ruf, who was somewhat embarrassed by so much attention being suddenly showered upon him, Mr. Ruf made a short reply to the Vice Consul and, through the Vice Consul, to the Shah.

NECROLOGICAL.

Dr. Geo. Phelps, a dentist in Columbus, Ga., died September 17. He was seventy-nine years old and had practiced in Columbus for fifty years.

Dr. J. A. David, who formerly practiced dentistry in Pawnee, Ill., died recently in Rock Island. He had retired from practice on account of failing health.

Dr. Peter Hall, a dentist in Spokane, Wash., died recently in that city of neuritis. He was forty years old and a graduate of the Northwestern University.

Dr. Altus T. Arnold, a dentist, died at his home in Litchfield, September 23. Deceased was a son of Professor W. P. Arnold, a noted educator of San Antonio, Tex., and was a graduate of the Louisville Dental College.

Dr. S. B. Messenger, a dentist in Utica, Ohio, died recently in that city, his death resulting from pneumonia. He had practiced in Utica for a number of years and had served as notary public, pension attorney and township clerk.

Dr. Frederick A. Sweetland, a practicing dentist of Wyoming, Illinois, died October 21, 1908, at the age of eighty-one. He has been in the dental profession for over fifty years, thirty-four years of this time being spent in Wyoming.

Dr. Emanuel Honsinger, for forty years a practicing dentist in Chicago, died September 18 in that city, aged eighty-five. He began practice in 1847 in Troy, N. Y., and moved to Chicago in 1858, retiring from practice in 1898. He was a member of the city, state and national societies.

Dr. John Bell, one of the oldest dentists in Massachusetts, died September 16 in Haverhill, N. H., where he was spending his summer vacation. Dr. Bell was in his seventy-first year and had studied under Dr. James Bigelow and had practiced his profession in Boston for nearly fifty years.

Dr. B. R. West, a dentist in Philadelphia, died September 16 of apoplexy at the age of seventy years. Dr. West was a member of the Pennsylvania and New Jersey dental societies and was an 1859 graduate of the Pennsylvania Dental College and a veteran of the Civil War, having acted as surgeon.

Dr. J. H. P. Benson, a well known dentist in Washington, D. C., died October 6 in that city of Bright's disease. Dr. Benson was a graduate of the National University and served as professor of operative technique in that institution and held a membership in the faculty of the George Washington University. He was prominent in the Dental club of Washington. He was fifty-two years old.

DENTAL PATENTS

Fig. 1.

897,171. Dental Sterilizer and Water-Heater. Elbridge G. Stamper, Paducah, Ky. Filed March 9, 1907. Serial No. 361,467. 1. A dental sterilizer and water heater, comprising a tray, a heat-conducting tank retained in said tray, a vessel depending within said tank, a supple-

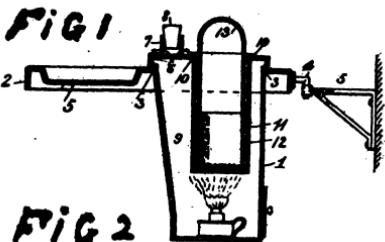


FIG 2



FIG 4

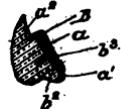
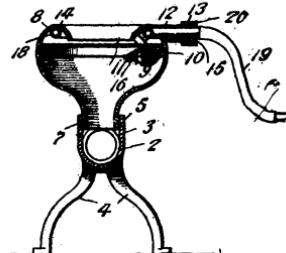


FIG 6



mental receptacle having a foraminous or screen-like bottom received in the vessel, said tank having a cup-like receptacle on its upper end around an opening for the passage of the combustion-products into said cup-like receptacle for additional heating purposes.

Fig. 2.

879,437. Dental Implement. Julian Gartrell, Washington, D. C. Filed July 20, 1907. Serial No. 384,781. 1. A dental instrument for pyorrhea work having a head provided with a plane bearing surface adapted to contact with and bear against the surface of the root and having working surfaces at its opposite ends perpendicular to said plane surface, whereby said instrument is adapted to be used either with a pull or push motion.

Fig. 3.

891,543. Dental Tool. Elmore Y. Haughawout, Cedar Rapids, Neb. Filed February 28, 1908. Serial No. 418,391. 1. A tool comprising a tube having a projecting jaw at one end, a rod extending through the tube and movable lengthwise without rotation therein and having a jaw, which cooperates with said jaw, a spring between the tube and rod, tending to retract the latter, and means to press the jaws toward each other.

Fig. 4.

887,577. Artificial Tooth. Louis R. Bernstein and Henry Bernstein, New York, N. Y. Filed Feb. 12, 1908. Serial No. 415,473. 1. An artificial tooth comprising a facing of porcelain or the like, having affixed thereto the lower or basal part of an upwardly extending post which lies slightly beyond and parallel with the rear wall of the facing, or substantially so, in combination with a metallic backing consisting of a plate, having imposed thereon a longitudinally flanged or channeled portion which constitutes a pocket co-extensive with the post, the mouth of said pocket being at its lower end, whereby the post may be inserted into the pocket and confined therein throughout its length.

Fig. 5.

880,328. Combined Impression-Tray and Cheek-Distender. Ralph E. Sadler, Cleveland, Ohio. Filed May 13, 1907. Serial No. 373,255. 1. A device for the purpose specified comprising a base plate, a pair of levers pivoted thereto, a pair of curved spreading members carried by the inner ends of said levers, and operating links connected with said levers, substantially as specified.

Fig. 6.

894,678. Cuspidor. Mark G. Melvin, Scranton, Pa. Filed June 6, 1906. Serial No. 320,484. 1. In apparatus of the class described, a waste pipe, a cuspidor connected thereto and having a detachable cover, a spray ring in the under side of such cover, such cover and such spray ring having coacting means to detachably secure such spray ring to such cover, and a water connection for such spray ring including a flexible tube, adapting such cover together with such spray ring to be lifted from the cuspidor.

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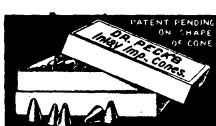
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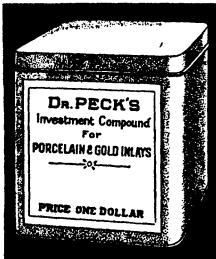


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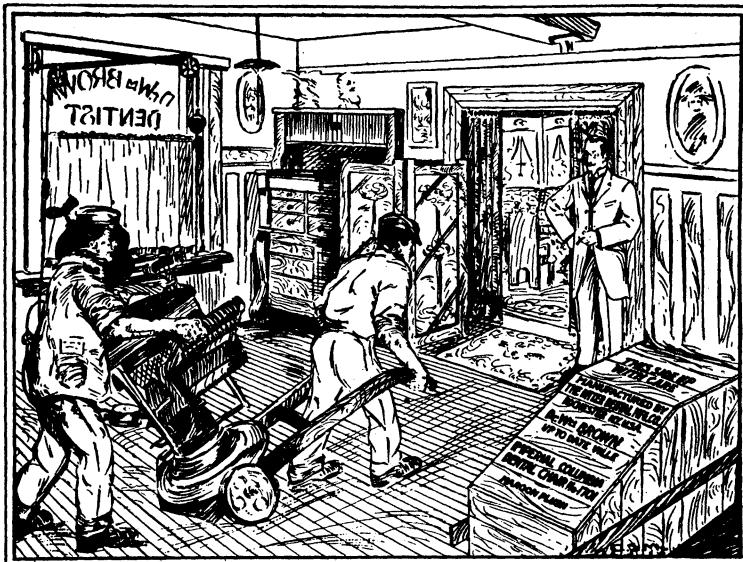
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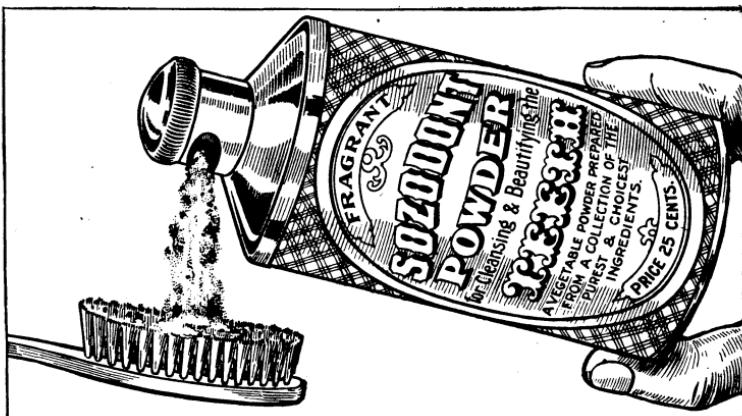
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November, 1908.

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Successors to Frink & Young Company,

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